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CATALOGUE FIRE-ARMS COLLECTION

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United States Cartridge Company

ILLUSTRATED CATALOGUE OF UNITED STATES CARTRIDGE COMPANY'S COLLECTION OF FIREARMS. : : : : : : : :

THE MOST COMPLETE COLLECTION IN THE UNITED STATES, EMBRACING CROSSBOW GUNS, MATCH-LOCKS, WHEEL-LOCKS, SNAPHAUNCE LOCKS, FLINT-LOCKS AND PERCUSSION-LOCKS; SPECIMENS OF THE DIFFERENT MUSKETS, RIFLES, CARBINES, REVOLVERS AND PISTOLS USED BY THE UNITED STATES GOVERNMENT AND ITS OPPONENTS DURING THE FRENCH, INDIAN, REVOLUTIONARY, CIVIL AND SPANISH-AMERICAN WARS. THE LATEST TYPES OF MILITARY ARMS OF THE DIFFERENT COUNTRIES, INCLUDING THE NEW U. S. MODEL OF 1903 MAGAZINE RIFLE, AND A FEW RARE OLD CANNON. : : : : : : : :

PUBLISHED BY

UNITED STATES CARTRIDGE COMPANY

LOWELL, MASS., U. S. A.

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1913

"This is the arsenal. From floor to ceiling,
Like a huge organ, rise the burnished arms.

* * * * * *

When the death-angel touches those swift keys!
What loud lament and dismal Miserere
Will mingle with their awful symphonies!"

LONGFELLOW.

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Introductory.

IN PREPARING this Catalogue for publication, the UNITED STATES CARTRIDGE COMPANY has studied to avoid omissions and mistakes in the description of the fire-arms, etc., herein illustrated; and, while probably a few mistakes are unavoidably made, and an incomplete description of certain arms given, the Catalogue is believed to be nearly correct.

All fire-arms mentioned in this Catalogue, unless otherwise described, are muzzle-loading, iron-mounted, have iron barrels and plain black walnut stocks.

The figures following the word "calibre" (which is abbreviated for convenience "cal.") represent the diameter of the bore of the barrel in hundredths of an inch. To illustrate: the model of 1822 U. S. musket is cal. .69=69-100 of 1 inch; the model of 1855 is cal. .58=58-100 of 1 inch. (Calibre in metric system given in millimeters, abbreviated "mm.")

The calibre of the arms of all nations has been gradually decreasing for years.

It will hardly be expected that this Catalogue, issued for the purpose of describing the arms exhibited, will give a complete history of Fire-arms. To do so would increase its size beyond convenience. Collectors are referred to works to be found in large libraries for the history in full of Fire-arms, brief mention of which is here given.

No publication has, in the six hundred consulted by the writer, given the actual date of the first hand fire-arm. Its first appearance was at the same time as the breech-loading cannon, both being of large bore, and invented at the beginning of the fourteenth century. Considering them as they differ in the mechanism of their locks, they are:

The Hand Cannon; earlier part of fourteenth century. Forged iron. Very crude at first. Fastened to a block of wood. Too large to be fired from the shoulder. The vent or touch-hole in the top of the barrel. The first improvement in this "model" was a cover or plate, to keep the powder dry, etc.

The Portable Hand Cannon; middle to the end of fourteenth century. Differs from its father in having some shape to the wood. Not unlike a stock, and capable of being shouldered. Beginning with this arm we find the vent on the right side, and a pan added to hold the priming. A cover was also added, moved by hand. This arm is known to have been made in 1453. These arms were fired by a match held in the hand. The first lock appears to have been a piece of yellow metal, S-shaped, pivoted at the center, the upper point slit and holding the match, the lower part prolonged like the lever in a cross-bow; its weight keeping the match raised above the pan till the "trigger" was compressed.

Next comes the true *Match-lock*. The first arm having in the lock a spring. Made at first with the projecting open pan, they were improved by a cover for it. Owing to their simplicity and cheapness match-locks were used over two hundred years.

The Wheel-lock (Gun) was invented in Germany. Nuremberg is by all authorities credited as its birthplace; the time, between 1509 and 1517. Seventy writers do not differ eight years, and it is probable that the specimen claimed to be made in 1509 was made in 1569. This would fix the date 1515-17, and leave the amateur collector free to settle in his mind which is correct to label his first wheel-lock. Sulphurous pyrites replaced the match.

Beautiful specimens of wheel-lock pistols may be seen in the case of early pistols in this exhibit. Space will permit only a very brief description of the wheel-lock. Screwed into the jaws of the cock, which was in front of the pan, and pointed to the rear, was the pyrites. The pan had a sliding cover. A steel wheel having projections, which, when in contact with the stone, produced sparks setting off the powder. Motion was given by a ribbon spring, which was wound up as is a clock; releasing the spring fired the gun.

The Snaphaunce Gun, deriving its name from a pecking hen, followed the wheel-lock. The wheel was replaced by a cock, which struck a "battery," or cover (steel-faced), covering the pan. It still used pyrites to cause the spark, and was the forerunner of the flint-lock. The earliest known snaphaunce pistol dates 1598.

The Flint-lock Gun was invented about 1630. It appears on equally good authority to have been first made in France and Spain.

Percussion dates back to 1807. Invented by Rev. A. John Forsyth. First used in form of powder ignited by a punch, and hence the name "Punch-lock." Later used in pills, and the arm known as a Pill-lock.

The copper percussion cap was invented in 1818, and is accredited to Joseph Egg, England.

Note.—The Air-gun, of which a good specimen is shown, was invented in 1560 in Germany.

Collectors will find the following table useful in distinguishing old English muskets from French muskets in cases where, from rust or age, no engraving or marks are visible, or where the original lock is gone:

	English.	French.
Length of original musket,	42 inches	44.72 inches
Length of bayonet,	17 inches	15 inches
Diameter of the bore (cal.),	.75	.69, .70
Diameter of the ball fired,	.676	.65
Weight of the ball fired,	1.06 oz.	.958 oz.
Weight of the arm and bayonet,	12.25 lbs.	10.98 lbs.
Length of the barrel and bayonet,	59 inches	59.72 inches

The English "Enfield" Rifle, perfected in 1853, and adopted in 1854, takes its name from the place where it was first made. The original musket, the "Minié," adopted in 1851, differs from the Model of 1858, "Enfield," in both caliber and weight. The "Minié" weighed 10 lbs. 8¾ oz., and was cal. .702 The Model of 1858, "Enfield," the gun used in the Civil War on both sides, weighs 9 lbs. and is cal. .577, and was considered the highest type of its class at the time.

Old English military arms have engraved on the lock, back of cock, "TOWER," or "DUBLIN CASTLE" (which designates the place of inspection), and near the center of the lock, between the cock and the pan, the English crown, ♔, over the initials GR (showing the arm was made during the reign of King George). There ruled in England four kings of this name: George I (1714-1727), George II (1727-1760), George III (1760-1820), George IV (1820-1830).

To the left of the crown (toward muzzle) is usually seen the "broad arrow," ←⊖, signifying government ownership.

Note.—Comparatively few of the older English army guns show any dates. The period of manufacture may be determined, however, by the style of the characters and the work. Arms made during the reign of William and Mary (1680-1702) are engraved "W & M;" Queen Anne (1702-1714), "AR;" William IV (1830-1837), "WR;" Queen Victoria (1837-1901), "VR."

Marks on U. S. Arms.

Inspected barrels were first stamped with the "proof-mark," viz., the initials of the inspector's name, with the letter "P." under them, placed on the left side of the barrel, just above the left flat, and about one inch from the breech; in addition to the proof-mark the letters "U. S." were stamped on the top of the barrel one inch from, and the year of fabrication underneath those letters in the direction of the axis of the barrel, ending at the breech.

Note.—During the forties inspectors were ordered to stamp the barrels as follows: The proof-mark to be the letter "V." for viewed, "P." for proved, with the eagle's head under them, stamped thus: V P, on the left square of the barrel, opposite the cone-seat, and the year of fabrication on the top of the barrel, in the direction of the axis of the barrel, ending at .25 inch from the breech.

Locks.

On the earlier arms the *place* and year of fabrication are stamped on the face of the lock-plate in rear of the cock; at the National Armories an eagle and the letters "U. S." are stamped on the lock-plate under the pan; at private armories the letters "U. S." and the name of the contractor.

Note.—A few exceptions to this method are noticeable. W. T. Evans of Valley Forge, Pa., frequently stamped an eagle on locks. B. Evans of Valley Forge stamped his name over and Valley Forge under an eagle, curving the letters into an oval. N. Starr of Middletown, Conn., stamped one half of a large six-pointed star under "U. S." and over his name. E. Whitney of Whitneyville (New Haven), Conn., stamped locks in the thirties both ways, with and without an inverted arrow crossing a branch of laurel, under "U. S." and over his name:

E, WHITNEY

Some of the earlier-made government armory locks have the "U. S." on a shield in front on the eagle; others the name of armory in a curve in front of cock.

Mountings.

The letters "U. S." are stamped on the tang of the butt-plate of all arms made by or for the government.

Bayonets

Are stamped on the face of the blade, near the neck, with the letters "U. S." Beginning with the Model of 1840 the bayonet has a clasp.

Ramrods.

The rods of the earlier models are stamped near the head.

Stocks

Are stamped on the left side (opposite the lock) with the initials of the inspector's name.

Locks approved on inspection are stamped on the underside of the pan with the inspector's initials. (This rule applies to flint-locks.)

The Model of 1855 called for a magazine with cover in the lock-plate, and the eagle is stamped on the cover, the place and year of fabrication are stamped on the face of the lock—the year in rear of the hammer, and the name of the armory in front of the magazine, with the "U. S." over it. This was the first arm provided with the Maynard primer-lock (so called tape-lack).

Note.—These locks made during the fifties by the Remingtons had stamped across end of lock-plate, in rear of hammer: REMINGTON'S and a small knob was riveted into center of the magazine cover.

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Civil War Period.

At the Springfield Armory (and at Harper's Ferry Armory up to April 18th, 1861), the date of manufacture was stamped in rear of the hammer, the between the hammer and the cone, and "SPRINGFIELD" (or HARPER'S FERRY), with the letters "U. S." over it, under the cone (nipple).

No common method appears to have been followed by the "contractors," who, as a rule, stamped locks as they saw fit. A few cases are illustrated:

The Eagle Manufacturing Company of Mansfield, Conn., stamped the date in the rear of hammer, and in front of hammer, under the cone, an 🦅, and "EAGLEVILLE" under the letters "U. S."

The Amoskeag Manufacturing Company of Manchester, N. H., stamped the 🦅 between the letters "U. S." over its name and place of manufacture.

S. Norris and W. T. Clement stamped the 🦅 over the letters "U. S." in front of the hammer, and "S. N. & W. T. C." FOR "MASSACHUSETTS," under the cone.

One with the 🦅 stamped in front of the hammer, and under the cone, above "1862," and under the letters "U. S." "NEW YORK."

One made by E. Whitney, stamped "1863" in rear of hammer, the 🦅 above the letters "U. S." in front of the hammer, and under the cone "WHITNEY-VILLE."

The Trenton Arms Company, Trenton, N. J., stamped the word "TRENTON" under the "U. S."

The Bridesburg Machine Works, Philadelphia, Pa. (Alfred Jenks & Son), stamped the word "BRIDESBURG" under the "U. S."

These few illustrate the variety existing, and lack of uniformity.

Note.—The interested collector will notice in the cases of Civil War arms, guns made Model of 1861 assembled with a lock Model of 1863. This is due to locks of the '63 Model, and made in '63, '64 or '65, being put on guns made in '61 or '62.

The Model of 1863 corresponds with the Model of 1861, except as follows: The end of the muzzle is rounded to prevent being damaged by bruises. The hammer is different in shape and has flat surface beveled. The "swell" is omitted on the ramrod. Band springs are discarded, and the bands open, fastened by screws. The lock is case-hardened in colors, and the bands, swivels and guard *blued*.

Beginning with the adoption of breech-loading arms made at Springfield, Mass., in 1866, barrels are stamped on the upper left side, just in front of the receiver. The breech-blocks are stamped "U. S." "Model;" also with the year of adoption of model just in rear of the hinge. The number of the gun is stamped on the upper rear portion of the receiver. Guns found satisfactory after testing are stamped "P" on the under side of the stock, in rear of the guard-plate.

Locks.

The place of fabrication is stamped on the lock-plate with the letters "U. S." over it. An is stamped just in rear of the former stamps.

Finished Arms.

The initials of the inspector's name (master armorer or principal inspector) are stamped on the stock opposite the rear end of the lock in *italics*.

The letters "U. S." are stamped on the tang of the butt-plate.

Bayonets are stamped "U. S." on the face of the blade near the neck.

Springfield Armory.

Springfield was the first town settled in western Massachusetts. Its situation recommended it as a depot for military stores, and a place for the repair and manufacture of munitions of war during the Revolution. The first work ever done in Springfield was repairing arms, and manufacturing cartridges and fireworks. During the Revolution it was a recruiting-post and rendezvous for soldiers. In 1778 and 1779 the government works were established on a portion of their present site on the hill.

Being centrally situated, easy of access, and at the same time so far inland as to be out of the reach of sudden invasions of the enemy, it

had been early in the war fixed upon as a suitable place for making and repairing the various war goods mentioned. The various artificers employed had their shops where they could find a convenient place and resided all over town. The laboratory for cartridges and for the different fireworks manufactured on such occasions was in the barn of Ebenezer Stebbins.

After two or three years the public works were removed to the hill where they are now. This was done gradually in the years 1778 and 1779 as accommodations could be made. A few cannon were cast here during the war, but no small arms were manufactured until 1795. At the close of the war the workmen employed were discharged, and the arsenals, magazines and shops were left in the charge of a store-keeper.

When the subject of making arms was under the consideration of the national government in 1794, the convenience of the place and the arsenals, magazines, etc., were a sufficient inducement to establish the National Armory here.

The manufacturing of arms commenced in 1795 with about forty hands.

From July 10, 1793, to September 1, 1801, $230,251.23 was spent at the Armory at Springfield, and from Oct. 1, 1793, to June 30, 1801, $75,214.98 at Harper's Ferry.

In 1802 the superintendent of the Springfield Armory was David Ames; salary, $840; rations, 3; total, $993.30. Master Armorer, Robert Orr; salary, $600; rations, 2; total, $702.20.

There were 1020 more muskets made in 1811 than in 1854; 113,406 muskets altered to percussion in 1850-51; 50,000 muskets repaired 1809 to 1822, omitting 1811 and 1812.

The Assessors' report for 1837 relative to the Armory states public land and buildings, value $210,000; machinery, $50,000; number of muskets on hand, 170,000, value $2,040,000; number manufactured year 1836-37, 14,000, $154,000. Hands employed, 260.

In 1847 and 1848 at Springfield were manufactured 3,600 "short-model" muskets, differing very little in appearance from the Infantry Musketoon of 1842. These light-weight guns were especially made for Frémont's Expedition in 1858, the Mormon War affair.

Harper's Ferry

Was named after Robert Harper, an English millwright, who obtained a grant of it in 1748 from the owner, Lord Fairfax, a friend of George Washington, who first surveyed it, and personally selected it as the site for the National Armory in 1794. The population was then 1762. Robert Harper did not settle Harper's Ferry. It was selected as the site of the Southern National Armory at the time Springfield was, Congress in 1794 having authorized two National Armories to be established.

No records or guns are to be found which show any manufacturing of arms at the Ferry before 1801. Little of interest, outside of Hall's going there in 1816, is attached to the Ferry until the John Brown raid, followed by the destruction of the Arsenal in 1861. The first superintendent at the Armory was a Mr. Perkins, an English Moravian.

The capacity of the Harper's Ferry Armory was from 1,500 to 2,000 guns a month, and the rifles made there were considered the best in the world. The Harper's Ferry Yerger enjoyed, in its day, a reputation second to no weapon of the small arms kind in the world. It was known as the Mississippi rifle, Jefferson Davis' company coming from that State and being armed with the Yerger in the Mexican War.

All government records of Harper's Ferry perished in the fire which destroyed the Arsenal, April 18th, 1861. "The avowed purpose and declared obligation of the Federal government was to occupy and possess the property belonging to the United States, yet one of the first acts was to set fire to the Harper's Ferry Armory, the only establishment of the kind in the Southern States, and the only southern depository of the rifles which the government had then on hand."—Jefferson Davis.

In April, 1861, the defense at Harper's Ferry consisted of forty-two regulars under the command of Lieut. Roger Jones, this company of military having been kept there by the government for the protection of the place since the John Brown raid.

Acting under orders given by Captain Kingsbury (sent there the day before from Washington to take charge of the Armory, the superintendent, Col. Barbour, having moved away), Lieut. Jones blew up the Arsenal at 9 o'clock in the evening, April 18th, 1861, and with the forty odd "regulars" made tracks for Washington city.

About this time the Confederate force, numbering 300 odd—although supposed to be over 3,000—arrived and, aided by the citizens and employees, put out the fire and to a certain extent defeated the ends

intended. The Arsenal, between 16,000 and 17,000 finished rifles and muskets, and the carpenter shop were totally destroyed. Master Armorer Amistead M. Ball so bravely and skillfully directed these efforts that a large portion of the gunmaking machinery, material and unfinished arms were saved, and when boxed were sent by rail to Winchester (the terminus of the road), thence by wagons to Strasburg, at which place the confiscated property was turned over to the Manassas Gap Railroad, and forwarded to Richmond, Va. By the 18th of June all of this material was removed. The machinery thus secured was divided between the arsenals established by the Confederates at Richmond, Va., and Fayetteville, N. C., and when installed, supplied to a great extent the want which existed in the South, of means for the alteration and repair of old or injured arms, and finally contributed to increase the scanty supply of arms which existed in the Confederacy at the outbreak of the Civil War.

In connection with the removal of all this machinery, it may interest us to follow the skilled workmen and see what became of them. Best known was the superintendent, Mr. A. M. Barbour. He was elected to the convention in Virginia to represent the Union sentiment of Jefferson County. While in Richmond he fell a victim to secession and turned traitor to the government.

Master Armorer Ball, whose capacity, zeal and courage prior to and during the fire deserve more than a passing notice, promptly showed his colors and went to Fayetteville, N. C., with the machinery sent there, but like the ship which, after having weathered the storm, goes down in the calm, this master armorer, other than whom there was none better in this country, soon after assuming his new position was found one morning dead in bed.

The following extracts from letters written to the War Department at Washington during the war show where some of the skilled help went.

In a letter dated Oct. 8, 1861, to the Hon. Simon Cameron, at Washington, sent by the gun firm, John S. Gallaher & Co., is a memorandum which reads: "I met a party yesterday whose foreman is an old Harper's Ferry barrel-maker, and he proposed to furnish 6,000 barrels per month. I have also four responsible parties who agreed to deliver me from 6,000 to 10,000 barrels each, after sixty days. I have two responsible parties to furnish the stocks and three to furnish the locks, all old Harper's Ferry workmen, so with these men to put the guns together, 10,000 per month can be turned out."

Enclosure with a letter sent to Washington Aug. 31, 1861:

"We have two establishments, one at Boston under the control of the Boston Arms Co., the other at Newark, N. J., where, besides the

hands that are now there, are 250 of the hands that were at the Harper's Ferry Armory, now suffering for work, who will go to work in it. This plant will be managed by the later superintendent of the Hall Rifle Works at Harper's Ferry."

In March, 1865, the machinery used in manufacturing arms at Fayetteville, which was taken from Harper's Ferry, was loaded on the flat cars of a coal company running to Egypt, Chatham County, carried there, unloaded and secreted. Egypt was the site of large coal mines, owned and operated (before the war) by Philadelphia capitalists. These mines were confiscated by the Confederate government and leased to Malette & Brown, a firm who operated them with men conscripted for the service. In May, 1865, the United States government, learning of the whereabouts of this machinery, sent ninety-six six-mule teams there, recaptured it, together with a twelve-pound "Napoleon" and one load of musket-barrels, and removed it all to Raleigh, where it was loaded on cars for Washington. Among other things recovered was the die with which the letters "U. S." and the "eagle" were stamped on the lock-plate, at Harper's Ferry. The "U. S." had been cut out and in its place "C. S. A." put in. [See note under Gun 207, page 50.]

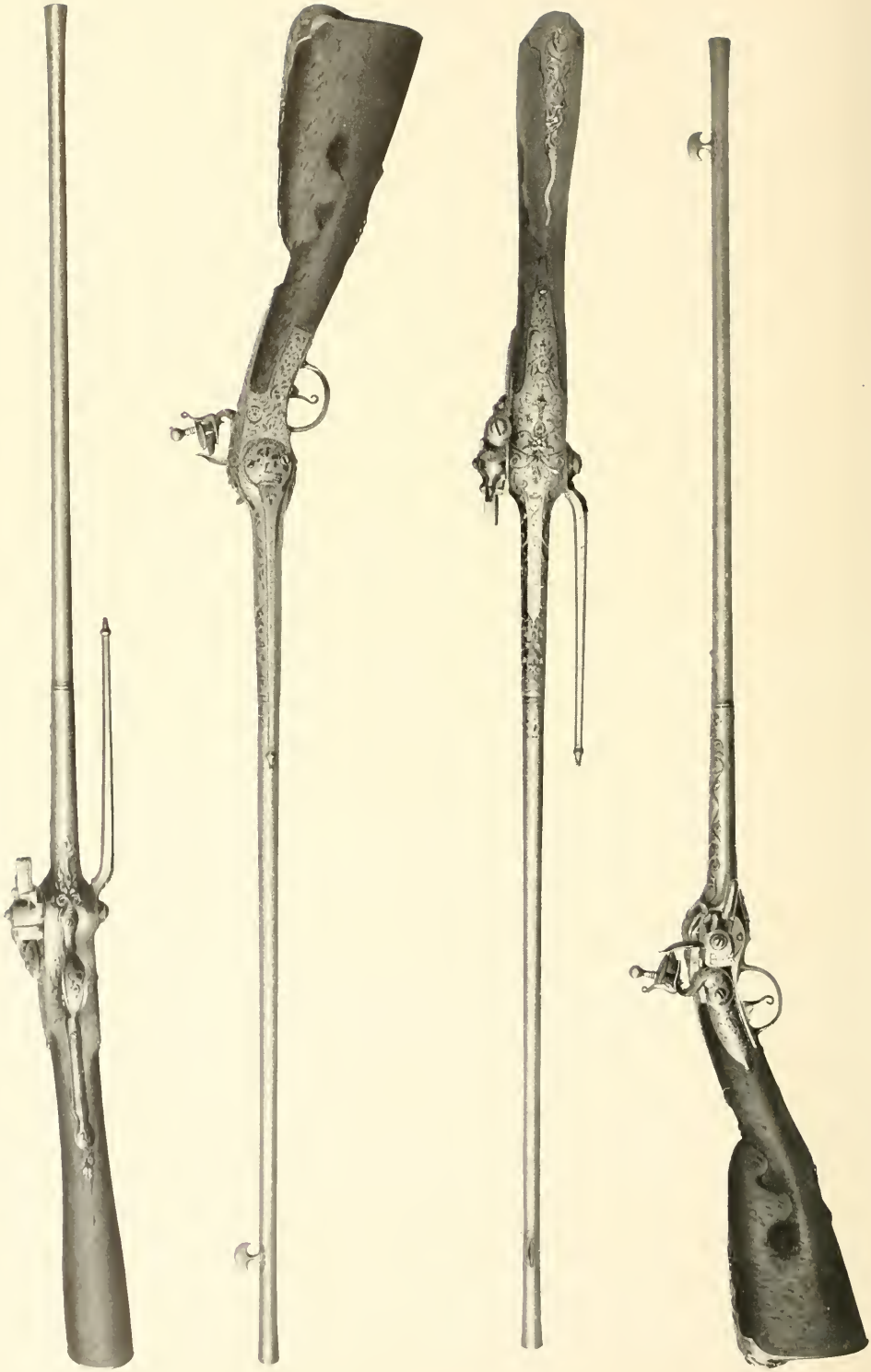


Exhibit A.

John Cookson Breech-loading Magazine Gun: Its History and Description.

The gun, as the engraving on it indicates, was made by John Cookson in 1586. The name is evidently English. Judging, however, from the design and character of the work, and from a knowledge of the state of art in England at that date, it is surmised to have been of Spanish origin, or at least modeled after a similar Spanish design.

The advanced state of the art in Spain in the latter half of the sixteenth century, together with the facts that similar Spanish work exists, and that a trace of Moorish design is visible in the scroll-work of the engraving, all point to this theory. Strangely enough, the place of residence of the maker does not appear.

The gun found its way to Maryland, probably with the early English colonists, and was finally discovered in Baltimore. It was one of a number of guns confiscated after a search for arms by the provost marshal in 1863, and was retained in the custody of the United States until after the close of the Rebellion. It remained unclaimed until 1867, and was finally thrown in the scrap-heap, where it was picked up by a scavenger, who sold it for a nominal sum.

In the fall of 1888 the gun was brought to the shop of Richard Heinze, a gunsmith of Baltimore, by a man who asked to have it repaired and changed to a percussion-lock. Mr. Heinze examined it, saw that it was extremely rusty, and considered it of little or no value. The alteration of the lock was out of the question. He finally bought the gun for a trifling sum and put it away with a number of others. Some two months later he made a closer examination of the gun, and became greatly interested in his "find." He at once began removing the rust, and labored faithfully at its restoration for eleven days, until he had put it in its present perfect condition. The old arm has been loaded and fired several times, and a good score made.

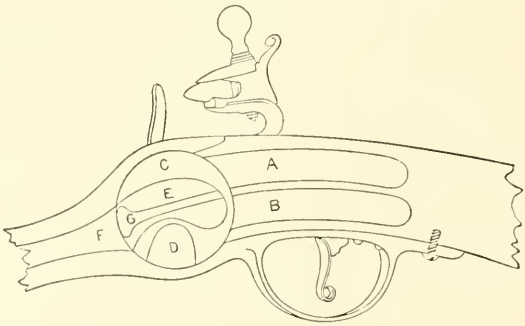
Aside from the excellence of the workmanship, the design is worthy of study.

It is difficult to tell whether the barrel is twist or laminated. The butt-plate is both embossed and engraved. The end-sight is a Turkish

crescent. All the metal work is more or less engraved, showing flags, drums, piles of cannon-balls, cannon being fired, stacks of muskets, boarding-pikes, etc. On the top of the barrel appears, "JOHN COOKSON, FECIT" (made by John Cookson). On the lock is a scroll bearing the maker's name; it is being held up at the left by an angel, at the right by a female figure, presumably intended to represent Queen Elizabeth. The stock is made of a peculiar kind of wood unknown in this country. Iron-mounted.

The letters in the following description refer to the side sectional view. The arm is a magazine, smooth-bore, flint-lock gun, firing spherical bullets, weighing 260 grains, and a charge of about 125 grains of powder. It has a capacity of ten rounds, and a magazine is also fitted to the lock for a similar number of priming charges.

It is charged on the left side through an opening with a hinged flap, the bullets being poured into one compartment (A), and the powder in another adjacent one (B).



These compartments connect by cylindrical passages with the central chamber in the frame, in which is located a solid cylindrical block (C) with its axis from right to left.

This cylinder forms the recoil-block, and is fitted with two radial cavities large enough to hold a ball and a charge, and located so that, in revolving, the cavities will be opposite the passages from the magazine. Here the ball drops into the first cavity (D), and the powder into the second (E), and by revolving the cylinder to the front the passages are closed, and the ball and charge brought in front of the rear end of the bore (F), the loading being done with the muzzle held down. The bullet then drops in and the block remains with the charge in line with the boré. The powder cavity is fitted with a diaphragm (G) to prevent the bullet from dropping into it.

The powder cavity or chamber is connected by a vent, through the axis of the cylinder, with the pan.

The pan is a cavity in one end of the cylinder or breech-block on the right side, and revolves in the lock in front of the magazine containing the priming charge, where at each revolution it scoops up a charge and revolves it in place under the flint, and closes the opening to the magazine.

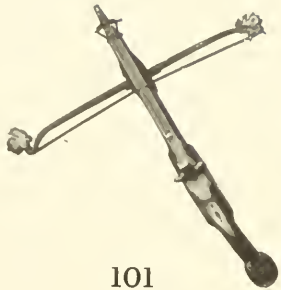
The cylindrical breech-block is revolved by a lever on the left side, which also cocks the hammer and closes the pan.

This automatic action is accomplished by a stop on the cylinder acting on a hooked lever-arm attached to and pivoted on the hammer. The stop pushes the hammer back by the lever, and the hook on the latter pulls the steel-faced cover of the pan, known as the "battery," into place. The lock and trigger are the ordinary design; but it is worthy of note that the design as regards sear, sear spring, main-spring, etc., is the same as that used on the latest flint-lock guns.

The barrel, front-sight, and under-side of the guard are all in one piece, and the carving and other works show evidence of the highest mechanical skill.

The only omissions in the provisions for all the necessary points in the design, from a mechanical point of view, are those for inserting a wad, and preventing the escape of gas through the vent. The former is partly compensated by making the bullet slightly larger than the bore, and the latter exists in all flint-locks. From a military point of view, the design of the arm gives evidence of being far in advance of its time. With the magazine charge, the ten shots could be fired in a time which would compare very favorably with magazine guns of to-day. Very little time is required for charging, as it is only necessary to fill the compartments with bullets and powder, with no counting and measuring. The charges are automatically measured, and the loading is fully as accurate as that of metallic cartridges.

Altogether, the antiquity, design, workmanship, and beauty of the gun make it a most valuable and remarkable relic.



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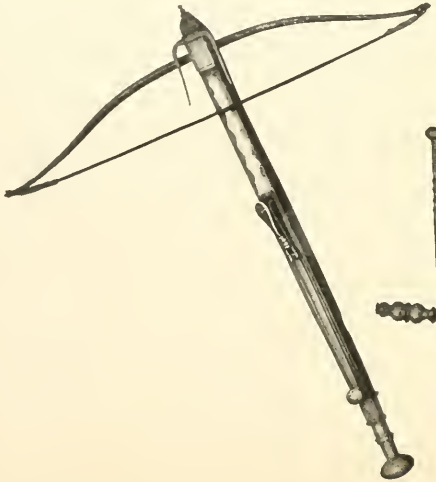

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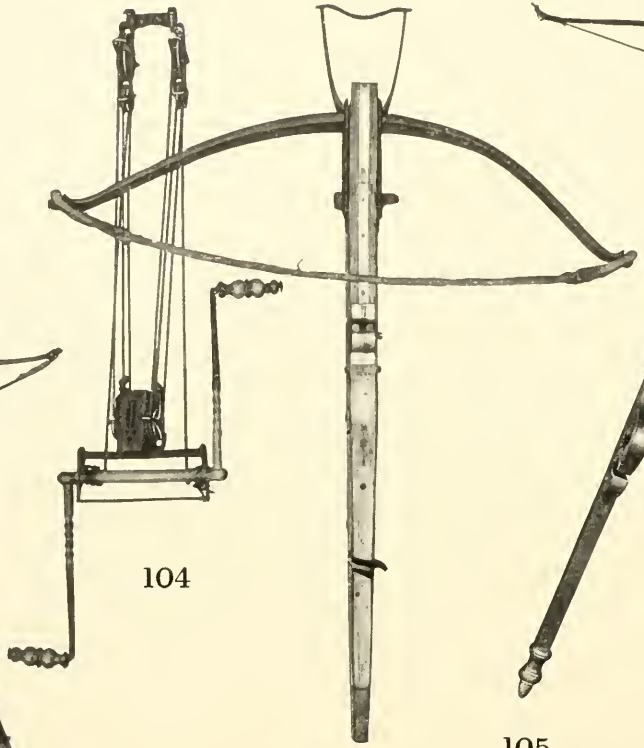

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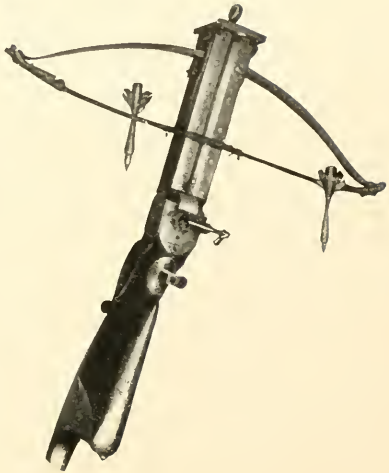

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Case No. 1.

Arbalists or Crossbow Guns.

101 Fourteenth Century, German Pettstol or Crossbow Pistol, which has peep-sights, is iron mounted and finely engraved.

102 Sixteenth Century, Spanish Arbalist or Crossbow Gun. It is called Goat's-foot Crossbow. This weapon was constructed either with or without stirrup. The apparatus employed to bend this crossbow is a lever. From Madrid, Spain.

103 Fourteenth Century Arbalist, with stirrup and windlass to set the bow. This crossbow was formerly used in the steen or prison of the Spanish Inquisition at Antwerp, Belgium. The windlass to draw the bow-string is provided with two cranks and two pulleys; has no fixed rests, but is always worked by a stirrup. Inlaid stock. Pistol grip. A few German archers were experts in shooting this kind of arm.

104 Windlass belonging to No. 103, and described therein.

105 Sixteenth Century Prod, a light crossbow used chiefly in field sports. The crossbow (a galet in French because the missiles used were stones) of the sixteenth century is the next in order. Instead of quarrels or crossbow bolts, this weapon shot leaden balls, and even stones. The stock, which went between the nut and the bow, was generally curved, and often made of iron. This weapon, of medium strength, is bent by means of a lever fixed to the stock, or with the hand alone.

106 German Arbalist or Crossbow Gun. It has peep-sight, plumb-bob for level, wind-gauge, hair-trigger; stock gun-shaped, and worm-eaten. It has two arrows or bolts, which date back to the fifteenth or sixteenth century. These dates mark the end of the Middle Ages and the beginning of the New Era, and also inaugurate the introduction of shooting festivals, and the transition from the use of the crossbow to fire-arms. These shooting festivals were occasions not only of social enjoyment, but of preparation for whatever might come in the shape of invasion or internal dissension, and the spirit of liberty was fostered by these gatherings.

*B Ancient Old Crossbow Gun, with sights, mahogany stock, ivory ornaments, brass-mounted; shooting quarrels or bolts. This weapon is bent by means of a lever fixed to the stock, or with the hand alone.

*Not under glass.

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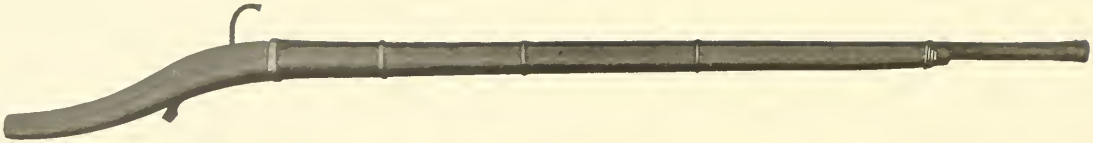

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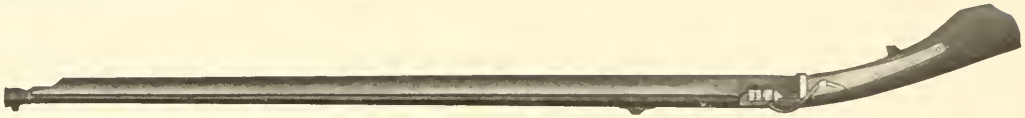

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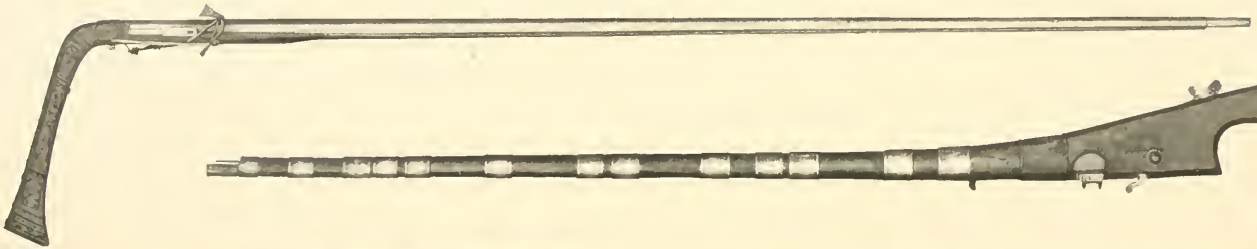

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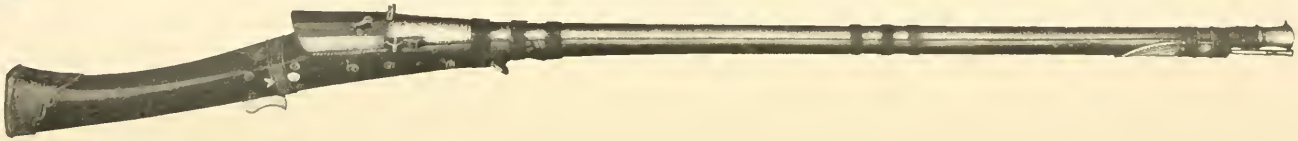


Case No. 2.

Ancient Match-locks.

108 Fifteenth Century, Match-lock Gun, cal. .70 The barrel is a little bell-muzzle, and is fastened to the stock by four copper bands. The stock is badly worm-eaten.

109 Sixteenth Century, Afghan Match-lock Gun, cal. .75 Straight stock, ornamented barrel. The barrel is wound to the stock with cord. From Afghanistan.

110 Seventeenth Century, Japanese Match-lock Gun, cal. .45 Barrel is covered with sheet brass. Very curiously shaped stock, crooked like a pistol grip-stock. It is made to shoot from the hip. This gun was secured by Geo. G. Accles, of the Gatling Gun Co., October 11, 1887, while traveling on the Island of Formosa; was made by natives.

111 Sixteenth Century, Indian Match-lock Gun, cal. .65 Barrel made of wire, finely inlaid with gold and silver. All the mountings finely inlaid with gold and silver. The barrel is wound with cord to hold it to the stock. From Punjab, India.

112 Japanese Match-lock Gun, cal. .50 Octagon barrel, finely inlaid with gold; ebony stock. From the Island of Formosa.

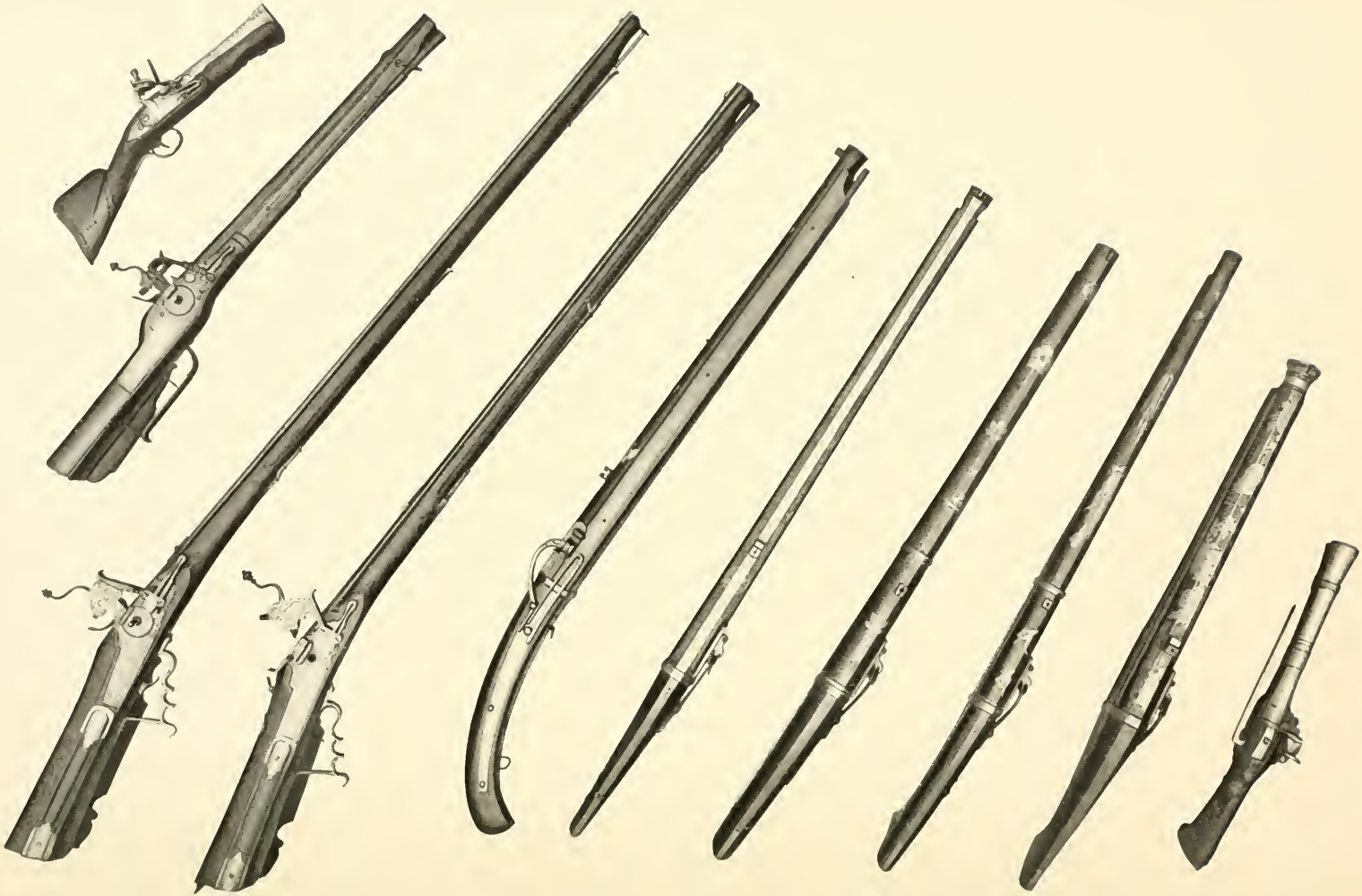
113 Sixteenth Century, Indian Match-lock Gun, cal. .60 The barrel is four square, with fancy muzzle, and is fastened to the stock by four flat brass bands. Straight stock. From the Himalaya Mountains, India.

114 Sixteenth Century, Afghan Match-lock Gun, cal. .50 Peculiar shaped stock; barrel fastened to the stock by fourteen brass bands. From Afghanistan.

*C An old Match-lock Gun, cal. 1. The barrel is slightly bell-shaped at the muzzle. Iron-mounted. Length, 10 feet. This gun was made in India or China about the year 1413. It was sent to the United States by the princes of East India with their exhibit to the World's Fair at Chicago, Ill., and was on exhibition in the Art Department in the summer and fall of 1893. It is duly authenticated by credentials from the English house in Bombay which invoiced the collection.

*D English Flint-lock Fowling-piece, cal. .80 Brass-mounted. Length, 7 feet 4½ inches. Made in England. It was owned by Charles Brechemia of Philadelphia.

*Not under glass.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Case No. 3.

JAPANESE MATCH-LOCKS, BLUNDERBUSSES, ETC.

115 Oriental Flint-lock Arquebuse, cal. at the muzzle, 1 1-3 inches. Iron barrel, inlaid with silver; bell muzzle; carved gun-shaped stock; used by mounted horsemen; a very fine old arm. It was bought in Tunis, Morocco, by Captain Charles H. Saunders of Hartford, Conn., in 1889.

116 Sixteenth Century, Wheel-lock Arquebuse, cal. .75 Straight stock, with a patch-box having a sliding wooden cover. This gun was purchased of Jerome Remington of Vosburg, Pa.

117 English Wheel-lock Gun, cal. .50 Barrel and lock finely engraved; carved stock, having patch-box with sliding cover; brass-mounted. Made in England.

118 Wheel-lock Rifle, cal. .48 A gold stamp upon the barrel, which is finely engraved; engraved lock marked "I. G. D."; carved stock, having a sharp-pointed spur in the butt-plate, and a patch-box with sliding cover; brass-mounted. Made in Germany.

119 Seventeenth Century, Japanese Match-lock Gun, cal. .75 Octagon barrel, finely inlaid with gold and silver; brass lock, and mounted; mahogany stock. From Japan.

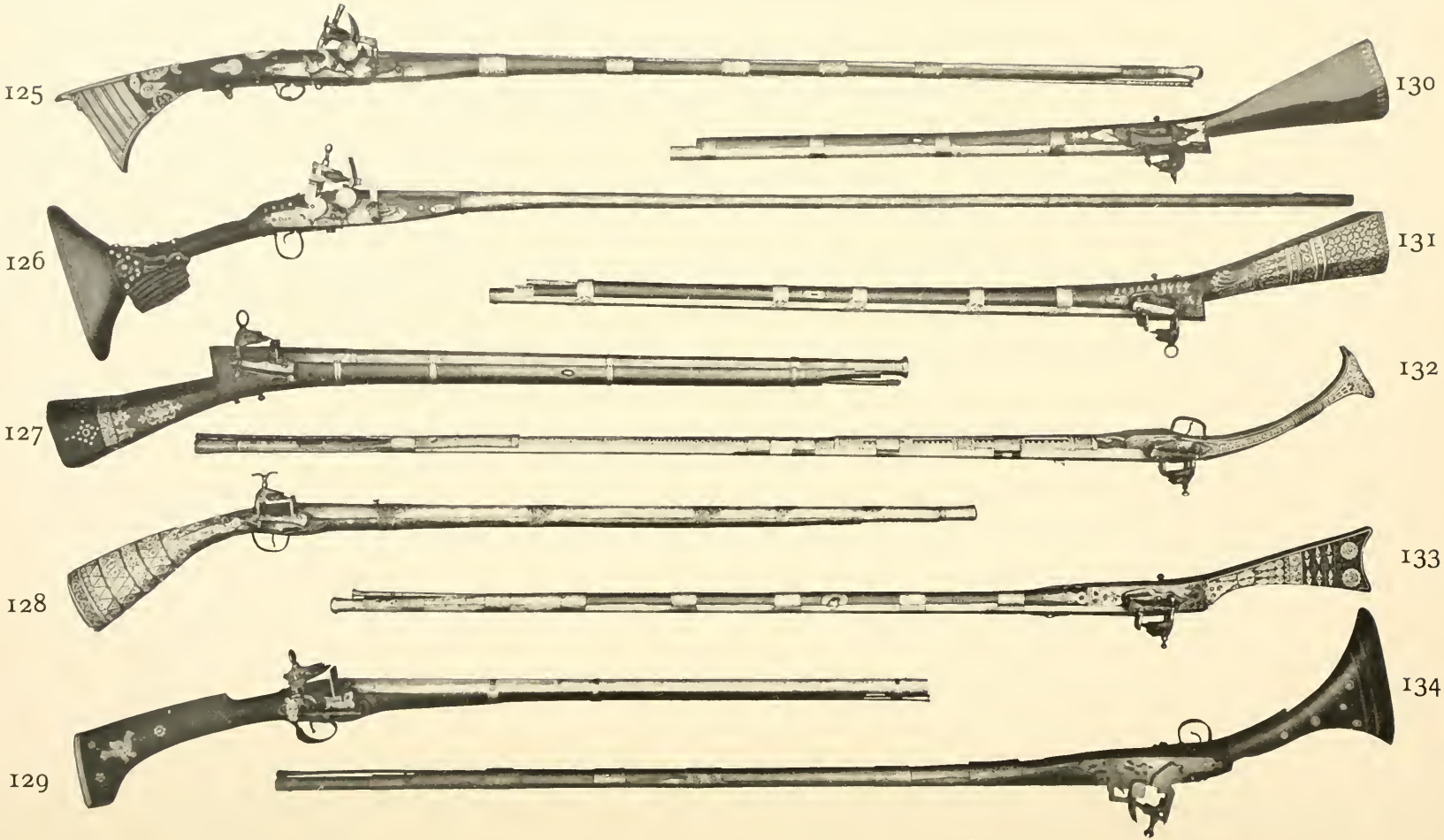
120 Seventeenth Century, Japanese Match-lock Gun, cal. .60 Octagon barrel, inlaid with gold and silver; Japanese inscription on the barrel; ebony stock; brass-mounted. From Japan.

121 Seventeenth Century, Japanese Match-lock Gun, cal. 1. Octagon barrel, finely inlaid with gold and silver; brass lock; copper and brass bands. From Japan.

122 Seventeenth Century, Japanese Match-lock Gun, cal. .65 Copper and brass bands; inlaid with gold and silver; brass lock, hammer and guard. From Japan.

123 Seventeenth Century, Japanese Match-lock Gun, cal. .75 Octagon barrel, inlaid with gold and silver; brass-mounted; live oak stock. From Japan.

124 Oriental Flint-lock Arquebuse, cal. at the muzzle, 1¼ inches. Bell-muzzle, iron barrel. On the stock on the opposite side from the lock is a projection known as a belt-hook. Brass-mounted; stock ornamented. From Mexico.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Case No. 4.

Ancient Flint-lock Guns.

125 Seventeenth Century, Spanish Flint-lock Gun, cal. .55 Barrel fastened to the stock by six silver bands; stock finely ornamented with ivory, some of which is colored. This gun was picked up on the battle-field of Gibraltar by a native, about the year 1765. This battle terminated the Moorish rule in Gibraltar. The gun was kept in the family until about the year 1845, when it was presented to Admiral Clary of the United States Navy, who retired a number of years ago. Obtained from the Admiral's family.

126 Seventeenth Century, Persian Flint-lock Gun, cal. .70 Barrel engraved, and partly covered with ornamental sheet brass; stock ornamented with tacks, etc. From Kerman, Persia.

127 Oriental Flint-lock Rifle, cal. .50 Octagon barrel, inlaid with silver, and fastened to the stock by four silver bands. It has a gold stamp upon the barrel; lock inlaid with silver. From Harran, Asiatic Turkey.

128 Arabian Flint-lock Gun, cal. .60 Barrel inlaid with silver and fastened to the stock by five silver bands; stock finely inlaid with mother-o-pearl. From Mecca, Arabia.

129 Moorish Flint-lock Gun, cal. .75 Barrel inlaid with silver ornaments, and fastened to the stock by three bands ornamented with silver. From Morocco.

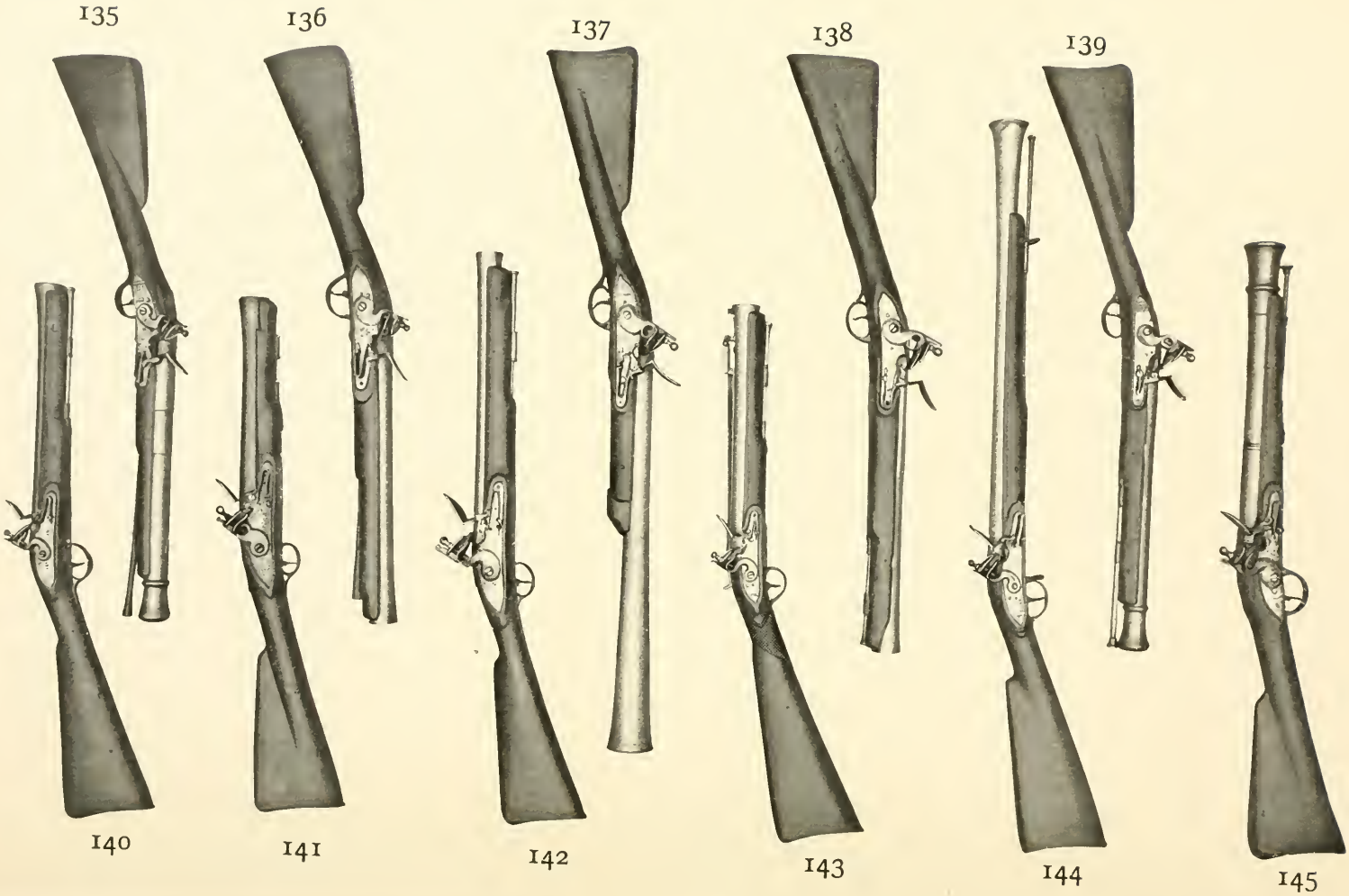
130 Turkish Flint-lock Gun, cal. .70 Barrel fastened to the stock by four silver bands; inlaid with mother-o-pearl. From Taurus Mountains, Turkey.

131 Oriental Flint-lock Rifle, cal. .54 Octagon barrel, finely inlaid with gold, and fastened to the stock by five silver bands. The stock is inlaid with gold and colored ivory. From Constantinople.

132 Arabian Flint-lock Gun, cal. .68 Barrel a little bell-muzzle, and finely inlaid with gold; stock covered with ornamental iron, inlaid with silver; of excellent workmanship. From Asia.

133 Oriental Flint-lock Gun, cal. .79 Barrel fastened to the stock by seven brass bands; stock inlaid with mother-o-pearl. From Constantinople.

134 Seventeenth Century, Persian Flint-lock Gun, cal. .68 Barrel fastened to the stock by six brass bands. Very peculiar-shaped stock. From Kerman, Persia.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Case No. 7.

FLINT-LOCK MUSKETS USED IN THE REVOLUTIONARY WAR.

157 English Smooth-bore Flint-lock Musket, cal. .75 Engraved on the lock, "DUBLIN CASTLE," the ♔, the letters GR and the ←θ. On the stock in rear of the barrel is inlaid a brass plate, engraved "F.10TH;" heavy stock, with wide butt; brass-mounted. Fought with in the Revolutionary War by Capt. Geo. Dennison, Mystic, Conn.

158 English Smooth-bore Flint-lock Musket, cal. .75 Engraved on the lock, "TOWER," the ♔, the letters GR, and the ←θ; heavy stock, with wide butt; brass-mounted. Carried in French, Indian and Revolutionary Wars by Robert Avery, Stonington, Conn.

159 English Smooth-bore Flint-lock Musket, cal. .75 Engraved on the lock, "TOWER," the ♔, the letters GR, and the ←θ; heavy stock, with wide butt; brass-mounted. A relic of the Revolution. Carried in the war by John Bunnell, Berlin, Conn.

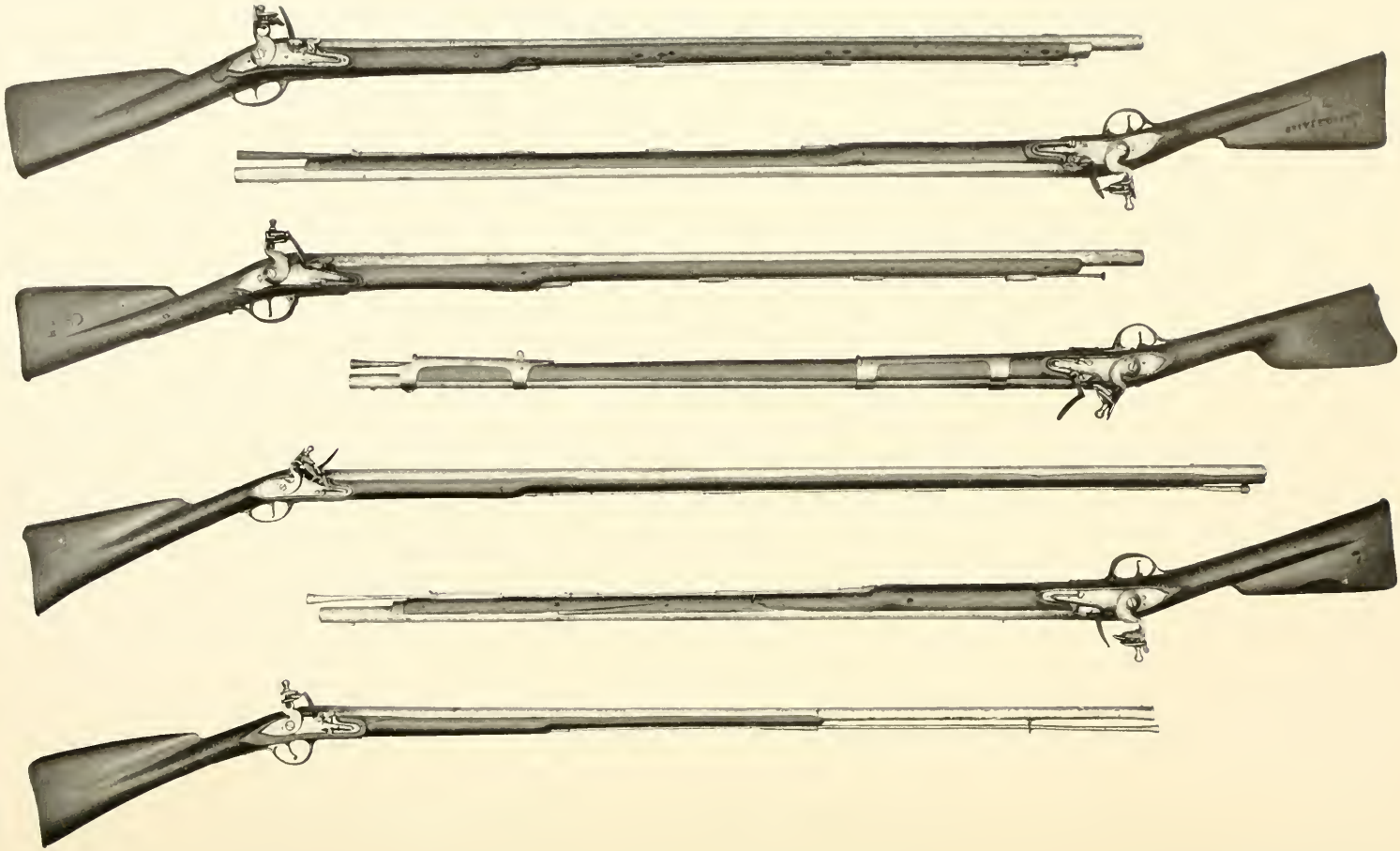
160 English Smooth-bore Flint-lock Musket, cal. .75 Engraved on the lock, "TOWER," the ♔, the letters GR, and the ←θ; heavy stock, with broad butt. Fought with in the Revolution by John Pratt, Hartford, Conn. Has five notches cut in the stock, representing as many Indians killed with the gun, it being the custom in those days, particularly among the Indians, to keep score on the stock.

161 English Smooth-bore Flint-lock Musket, cal. .75 Engraved on the lock, "VOIG, 1776;" brass-mounted; lock is not original; has a brass pan of French manufacture; engraved on the barrel, "67TH REG.;" cut in the stock, "K.M." Carried through the Revolutionary War by Daniel Munger, Saybrook, Conn.

162 French Smooth-bore Flint-lock Musket, cal. .70 Lock is neither engraved nor stamped; iron-mounted. A relic of the King Philip War, and formerly owned by Stephen Church.

Note.—The lock on this gun is not original; the pan is not original.

163 French Smooth-bore Flint-lock Musket, cal. .75 Engraved on the lock in script, Charleville; iron-mounted; wide iron bands. Formerly owned by Elisha Crosby, Ashburnham, Mass., and carried in the Revolutionary War.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Case No. 8.

Flint-lock Muskets Used in the Revolutionary War.

164 English Smooth-bore Flint-lock Musket, cal. .75 Heavy stock, wide butt, etc.; has English proof-mark on barrel, common to all the military arms herein described; no engraving on the lock. Formerly the gun of Thos. Bickford of Rockingham, N. H., a Revolutionary soldier.

165 English Smooth-bore Flint-lock Musket, cal. .75 Engraved on the lock, "IORDAN" (JORDAN?), "1743," the ♔, the letters GR, and the ←⊖. Cut in the stock, "C. H." "W. D.;" brass-mounted. A different model arm than the "Brown Bess," as was called the English army musket (1690-1840). Formerly owned by Cornelius Havens, Pomfret, Conn., 3d Regt., Conn. Line.

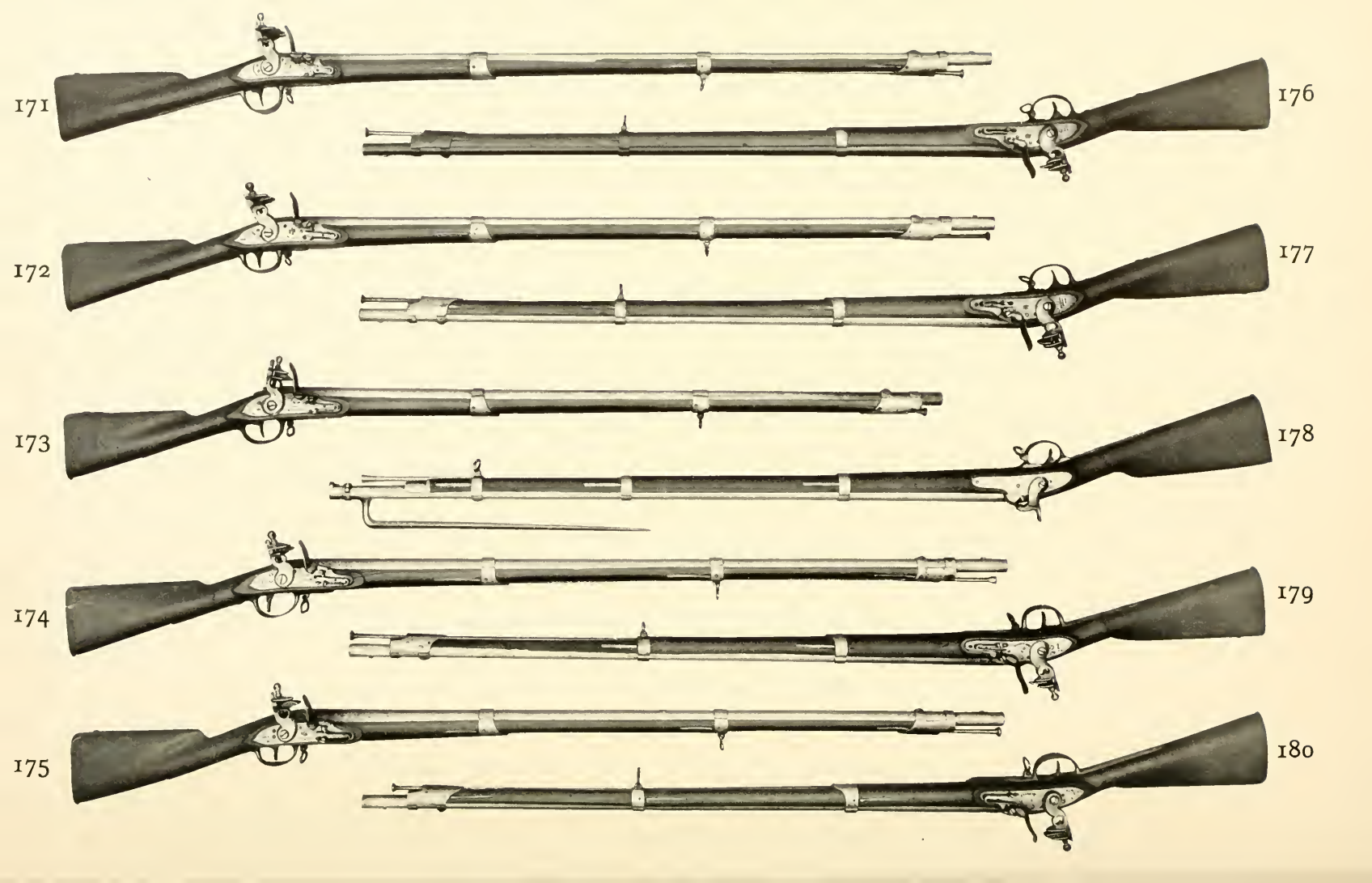
166 English Smooth-bore Flint-lock Fowling-piece, cal. .60 Engraved on the lock, "ALLPORT, LATE WITH KETLAND, LONDON;" brass-mounted. Carried in the Revolutionary War by John Marsh, Sturbridge, Mass.

167 English Smooth-bore Flint-lock Fowling-piece, cal. .60 Barrel slightly bell-muzzle; not the original lock. Fought with in the Revolution by Israel Brown, Lebanon, Conn.

168 English Smooth-bore Flint-lock Musket, cal. .75 Engraved on the lock, "WILSON, LONDON," and in rear of cock, in large letters, "U. S."; on the barrel, "U. S.," "D 24." Stock is branded "UNITED STATES," and cut in with a knife, "T. W., I. E., I. K., M." A relic of the three early wars, and carried in the Revolution by Samuel Stratton, L. I.

169 English Smooth-bore Flint-lock Musket, cal. .75 Lock is neither stamped nor engraved; brass-mounted, with very heavy bands. Fought with in the Revolution by Gudgo Sheppard, Voluntown, Conn.

170 English Smooth-bore Flint-lock Musket, cal. .75 Engraved on the lock, "MOORE, LONDON;" brass-mounted; a very old gun. Used in French and Indian and in Revolutionary Wars by John Smith, 1st Regt., Conn.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Case No. 9.

Guns Made by the United States Government from the Flint-lock Smooth-bore Musket of 1799 to the Percussion-rifled Musket of 1860.

171 Model of 1795, United States Flint-lock Smooth-bore Musket, cal. .70 On the lock is stamped "SPRINGFIELD," 🦅, and engraved in script *US*. On the tang of the butt-plate is stamped "1799." The stock under the guard is marked VII. This musket is in excellent condition, and seldom found, 4595 only having been made this year.

Note.—In 1795 (the year following the act of Congress establishing a National Armory at Springfield, Mass.) were made the first government arms; and the Charleville, a French flint-lock, smooth-bore musket, and the highest type of hand firearms in Europe, was adopted as the model. This musket is generally known as the "Springfield Model of 1799," and, erroneously, heretofore been credited as being the first manufactured.

172 Model of 1808, United States Flint-lock Smooth-bore Musket, cal. .69 On the lock in rear of cock is stamped "1808"; between the cock and pan is stamped "SPRINGFIELD," 🦅, and engraved in script the letters *US*. On the tang of the butt-plate (indicating the year the gun was finished) is stamped "1809."

Note.—This is the second model of United States arm, and differs somewhat from the first model.

173 Model of 1808, United States Flint-lock Smooth-bore Musket, cal. .69 On the lock is stamped "PITTSFIELD," "1808," "U. S.," 🦅, and "POMEROY." Made for the United States government by Lemuel Pomeroy, Pittsfield, Mass., 1808. Eltweed Pomeroy, coming from England in 1635, made the first guns at Windsor, Conn., A.D. 1637. A.D. 1640, Eldad Pomeroy, son of Eltweed, was given a grant of 1000 acres of land in Hampshire, Mass., for his skill as a gunmaker. General Seth Pomeroy, fourth generation from Eltweed, officer in French and Indian wars, seems to have given the Pomeroy guns their highest finish at Northampton, Mass. A.D. 1800, Lemuel Pomeroy, sixth generation from Eltweed, removed to Pittsfield, Mass., bringing same anvil used by Eldad and Seth, and continued the

manufacture of guns till 1840. A.D. 1904, anvil and site of musket-shop still in possession of the Pomeroy family.

174 Model of 1808, United States Flint-lock Smooth-bore Musket, cal. .69 On the lock is stamped "HARPER'S FERRY," "1812," "U. S.," and . Made at the National Armory at Harper's Ferry, 1812. 10,200 muskets were made this year at Harper's Ferry Armory, Va.

175 Model of 1808, United States Flint-lock Smooth-bore Musket, cal. .69 On the lock is stamped "E. STILLMAN," "1812," "U. S.," and . Made for the United States government by Ethan Stillman of Brookfield, Fairfield County, Conn., in 1812.

Note.—Ethan Stillman was one of twenty-five gunmakers given contracts by the government in 1808 to manufacture arms, to be supplied to the militia of the states. His contract was issued Sept. 14th, 1808. He had delivered only 1675 finished arms at the close of the year 1812.

176 Model of 1822, United States Flint-lock Smooth-bore Musket, cal. .69 On the lock is stamped "SPRINGFIELD," "1830," "U. S.," and . Made at the National Armory, Springfield, Mass., 1830.

Note.—16,480 arms were made at Springfield Armory in 1830.

177 Model of 1822, United States Flint-lock Smooth-bore Musket, cal. .69 On the lock is stamped "HARPER'S FERRY," "1833," "U. S.," and . Made at the National Armory at Harper's Ferry, 1833. 12,040 arms made at Harper's Ferry in 1833.

178 Rifled Musket, cal. .58 Percussion. No name or date on lock. Proof-marks >P, and "NEW HAMPSHIRE," stamped on the barrel; brass guard and bow; large rear sight; narrow end band, with sight; brass end on ramrod.

179 Model of 1808, United States Flint-lock Smooth-bore Musket, cal. .69 Made for the United States government by E. Buell, Marlborough, Conn., 1812. (Stamped on the lock in rear of cock, across the plate, "E. BUELL," and between cock and pan, MARLBOROUGH, in a curve, under an .)

180 Model of 1808, Flint-lock Smooth-bore Musket, cal. .69 On the lock is stamped N.HAVEN.

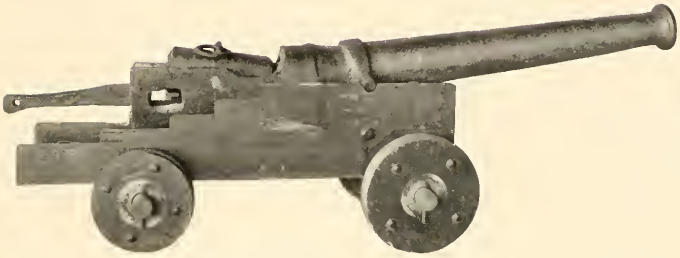
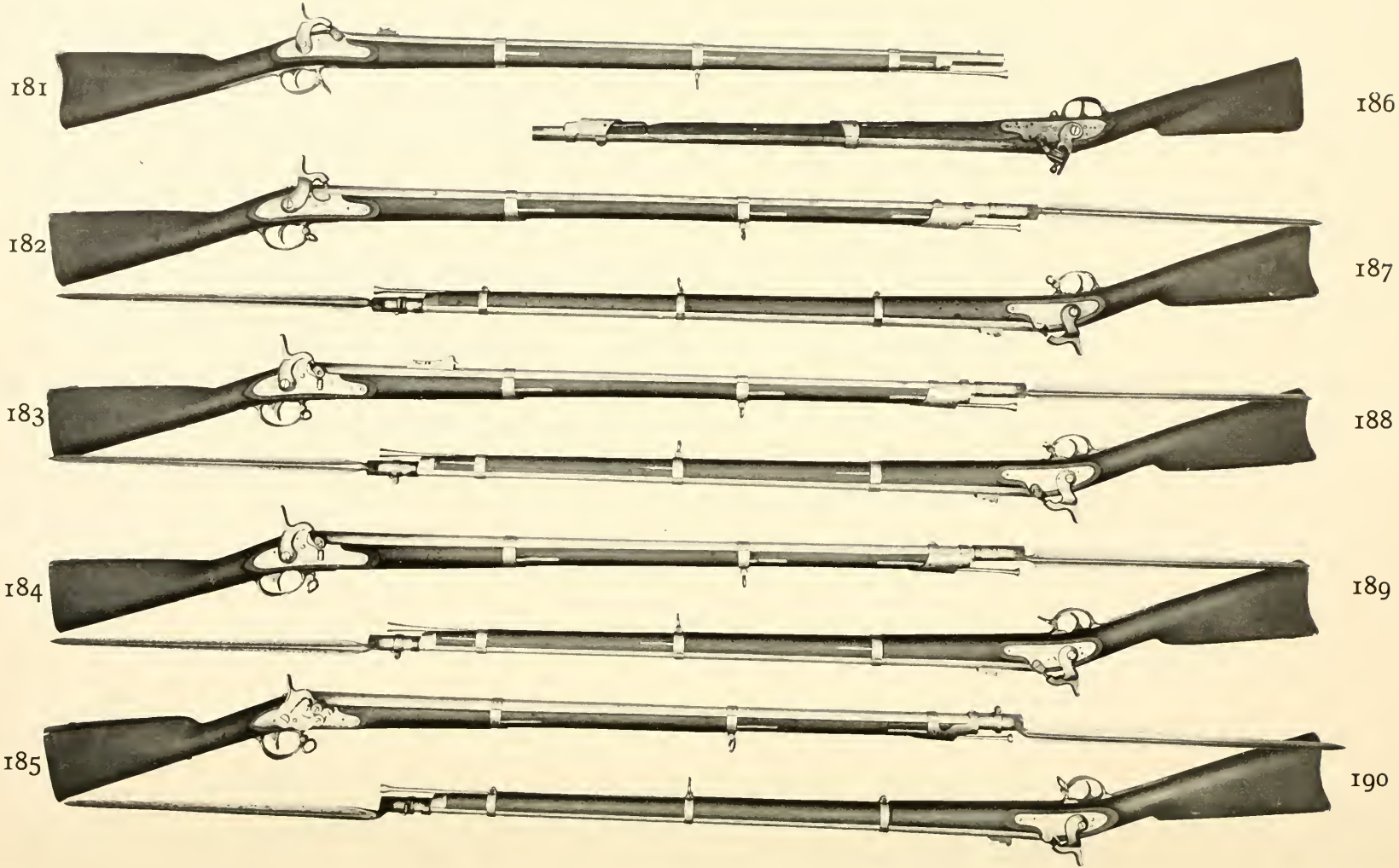


EXHIBIT E. BREECH-LOADING CANNON.

Cal. 2 inches, made of wrought iron. The marks on it indicate that it was made in China about the year 1373. The cannon is 5 feet 8 inches long. Was fired by a fuse. The breech-loading apparatus or breech-block of this wonderful arm is distinct from the wrought metal of the cannon, and is charged before being placed in position for firing. The bore containing the charge is exactly identical with that of the cannon, and in horizontal lines. The bores are absolutely in unison. The breech-block is held in place by a crossbar and the wrought-iron projection from the chamber that penetrates the body of the cannon, holding the two together with resistless energy. This breech-block is removable at the will of the operator or gunner. A ring is attached to it for that purpose. This cannon was sent to the United States by the Princes of East India with their exhibit to the World's Fair at Chicago, Ill., and was on exhibition in the Art Department in the summer and fall of 1893. It is duly authenticated by credentials from the English house in Bombay which invoiced the collection.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Case No. 10.

United States Rifled and Smooth-bore Muskets Used in the Civil War (War of the Rebellion), 1861-1865.

181 United States Model of 1861, Rifled Percussion Musket, cal. .58 Stamped on the lock "1861," "U. S.," and an ; curly-maple stock. Made for the United States government during the first year of the Civil War, in Germany.

Note.—A very rare arm.

182 Model of 1822, United States Flint-lock Smooth-bore Musket (with bayonet), cal. .69 Altered to Percussion in 1852 at Springfield Armory.

Note.—The government did not order the Flint-locks on hand altered to Percussion until nearly ten years after its adoption. In 1851 and 1852 a great many Flint-locks were so altered.

183 Model of 1842, United States Smooth-bore Percussion Musket (with bayonet), cal. .69 Made by E. Remington in 1857. Has Remington primer-lock, patented 1857. Civil War relic, Federal Army.

184 Model of 1822, United States Flint-lock Smooth-bore Musket (with bayonet), cal. .69 Altered to Percussion, with Remington primer, in 1857. Used in Civil War on Northern side.

185 Model of 1842, United States Flint-lock Smooth-bore Musket (with bayonet), cal. .69 Marked, "MILL CREEK, PA." Altered to Maynard's primer-lock, patented 1845. A relic of the Civil War, Federal Army.

186 United States Model of 1808, Smooth-bore Flint-lock Musket, cal. .69 Altered to Percussion. About twelve inches of the barrel and stock have been cut off, and the end band replaced. Altered by removing the pan, adding a cone, and retaining the flint-cock, a piece of iron, shaped to strike the cap, replacing the flint. Stamped on the lock "E. STILLMAN, 1812."

Note.—Ethan Stillman of Brookfield, Conn., was one of twenty-five gunmakers to obtain a contract to manufacture muskets for the government in 1808 (Sept. 14). He had delivered only 1675 Dec. 31st, 1812.

187 United States Model of 1863, Rifled Percussion Musket (with bayonet), cal. .58 Stamped on the lock "1863," "U. S.," under an

🦅, and "S. N. & W. T. C. FOR MASSACHUSETTS." Made by S. Norris & W. T. Clement for the State of Massachusetts.

Note.—In 1863 Massachusetts contracted with this firm for 2000 of these rifles, costing $18.50 each.

188 United States Model of 1861, Rifled Percussion Musket (with bayonet), cal. .58 Stamped on the lock "1863," "U. S.," and "TRENTON." Made for the United States by the Trenton Arms Co., Trenton, New Jersey, in 1863.

Note.—This gun is the Model of 1861, having band springs, swell on the ramrod near the head, etc. The lock is the 1863 model and differs from Model of 1861 in the shape of the hammer, and in being case-hardened in colors, as are all locks of later models.

189 United States Model of 1861, Rifled Percussion Musket (with bayonet), cal. .58 Stamped on the lock "1863," "U. S.," under an 🦅, and "E. ROBINSON, NEW YORK." Made for the United States by Edward Robinson, New York, in 1863.

Note.—Gun is Model of 1861, lock, Model of 1863. Edward Robinson was given a contract June 10th, 1863, for 20,000 Springfield Rifled Muskets, cal. .58 He delivered 30,000 in all.

190 United States Model of 1861, Rifled Percussion Musket (with bayonet), cal. .58 Stamped on the lock "1863," "U. S.," "COLT'S PT. F. A. MFG. CO. HARTFORD, CT." Made for the United States by Samuel Colt, Hartford, Conn.

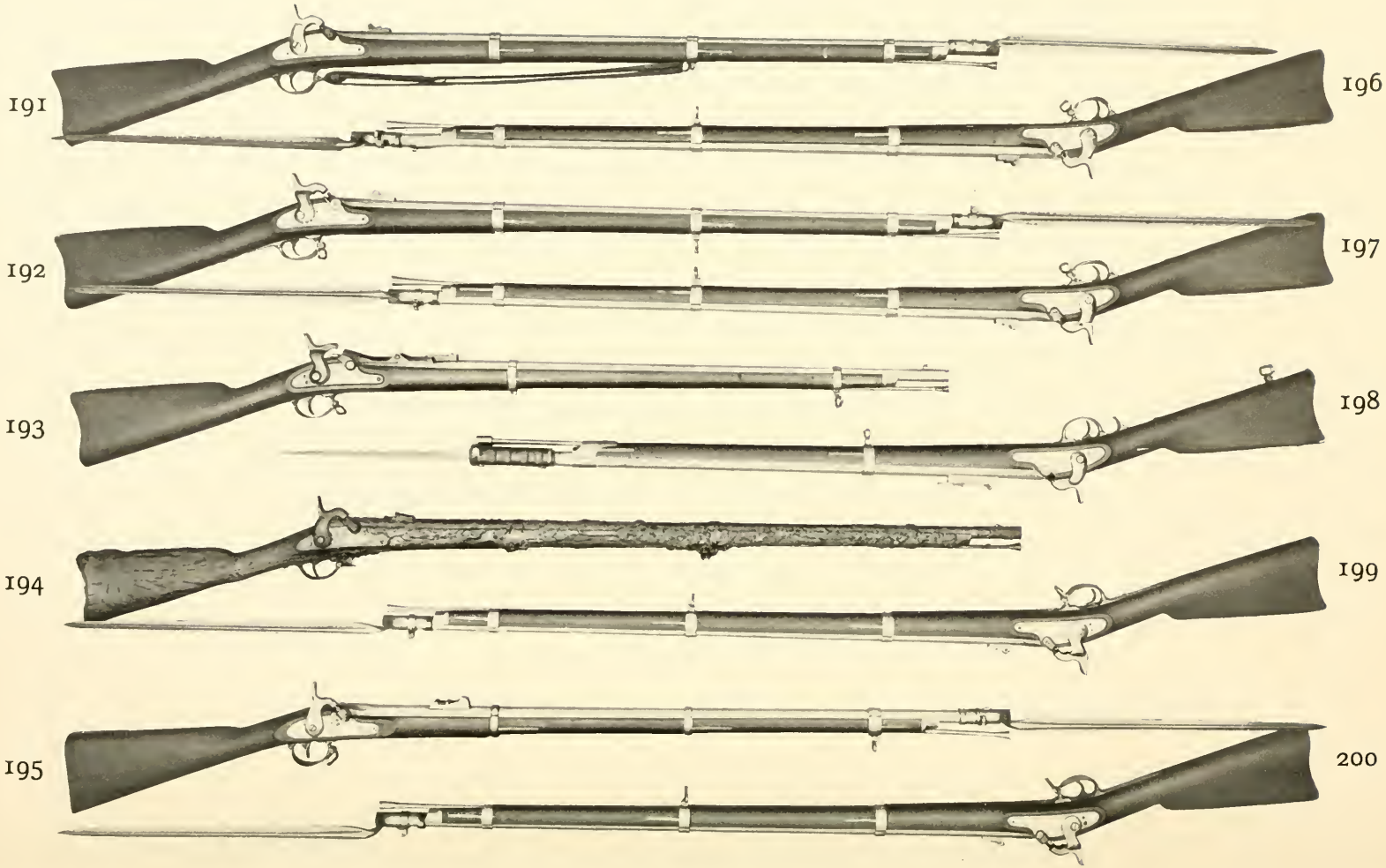
Note.—Colonel Colt received the first contract to furnish arms during the Civil War, July 5th, 1861 (25,000 at $20), and delivered in all 75,000.

CALIBER, LENGTH AND WEIGHT OF SMALL ARMS.

	FLINT-LOCK.						PERCUSSION.				
(U. S.)	Musket.		Pistol.		Rifle.	Musketoon.	Musket.		Rifle.		Pistol.
Model of	1822	1840	1819	1836	1819	1840	1842	1855	1842	1855	1855
	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches
Caliber,	.69	.69	.54	.54	.54	.69	.69	.58	.54	.58	.58
Length,	57.64	57.8	15.72	14.4	51.31	41.	57.8	55.85	48.8	49.3	17.6
	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Weight,	9 5½	9 12½	2 10½	2 9½	9 3¾	7.	9.14	9.18	9.68	9.93	3.56

EXHIBIT F. BREECH BLOCK.

Of one of the early specimens of breech-loading cannon, bearing date of 1400, made of wrought iron. The chase was formed of two bars bent longitudinally and surrounded by a number of rings welded to each other. Surrounding the whole were three large rings, also a large ring in the centre to lift it by. The length of the breech-block is 2 feet, the bore 4 inches, its weight 125 pounds. It was taken from a wreck or sunken ship which had been gradually driven on the coast of South Devon, England, in 1891. The opinion of the English authorities was that this ancient vessel belonged to the Spanish Armada.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Case No. 11.

Rifled Muskets Used in the Civil War (War of the Rebellion), 1861-1865.

191 Model of 1861, United States Rifled Percussion Musket (with bayonet), cal. .58 Stamped on the lock "1862," "U. S.," an [eagle], and "SPRINGFIELD." Made at Springfield Armory, Springfield, Mass., 1862. "W. B." cut on the stock. Civil War relic.

Note.—13,802 arms of this model were fabricated at Springfield Armory during the year of 1861.

192 Model of 1861, United States Rifled Percussion Musket (with bayonet), cal. .58 Marked, "WILLIAM MASON, TAUNTON, MASS., 1863." Civil War relic, Union Army.

Note.—William Mason of Taunton, Mass., was given a contract by the government, No. 74, Jan. 7th, 1862, for 50,000 "Springfield" rifles (by which name the Model of 1861 was known), which contract was subsequently increased 50,000. He made and delivered in all 30,000 at $20 each.

193 Model of 1863, United States Rifled Percussion Musket, cal. .58 Altered in 1865 to a breech-loader. Allin's alteration. Metallic cartridge, rim fire.

Note.—E. S. Allin was master armorer of Springfield Armory, and a machinist of extraordinary ability. He devised this the first breech-loading system to be used; and 5000 percussion muskets were altered as above in 1865. 217,784 "Springfield" rifles were made at Springfield Armory in 1863.

194 Model of 1861, United States Rifled Percussion Musket, cal. .58 Made at the Springfield Armory in 1862. This rifle was dug up near Antietam bridge, Sept. 17, 1889, by Alex. McCalvery of Sharpsburg, Md. There is no doubt that it was dropped by some soldier at the battle of Antietam, Sept. 17, 1862. It was found about eight rods below Antietam bridge in the sand which makes land from the flow of high water in the river, and about eighteen inches below the surface. The rifle is very rusty, having been buried just twenty-seven years to a day. 102,410 made at Springfield Armory, year of 1862.

195 Model of 1861, United States Rifled Percussion Musket (with bayonet), cal. .58 Marked, "E. WHITNEY, WHITNEYVILLE (New Haven), CONN., 1862." Civil War relic, Union Army.

Note.—Eli Whitney was given a contract to make and deliver 40,000 arms, No. 64, Dec. 24th, 1861, and a second contract for 15,000 Oct. 17th, 1863. He delivered in all during the Civil War 15,001 at $19 each.

196 Model of 1861, United States Rifled Percussion Musket (with bayonet), cal. .58 Marked, "WILLIAM MUIR & CO., WINDSOR LOCKS, CONN., 1862." A relic of the Civil War, Federal Army.

Note.—William Muir secured contract No. 53, Dec. 4th, 1861, for 30,000 arms of above model at $20, and delivered the same.

197 Model of 1861, United States Rifled Percussion Musket (with bayonet), cal. .58 Marked, "PROVIDENCE TOOL CO., PROVIDENCE, R. I." (Gun is Model of 1861, the lock is Model of 1863, made in 1864.)

Note.—The Providence Tool Co. of Providence, R. I., "by J. B. Anthony," were given contract No. 4, July 13th, 1861, for 25,000; also No. 52, Nov. 26th, for 25,000, and May 1st, 1864, a third contract for 32,000. They delivered 70,000 at $20 and $19 each.

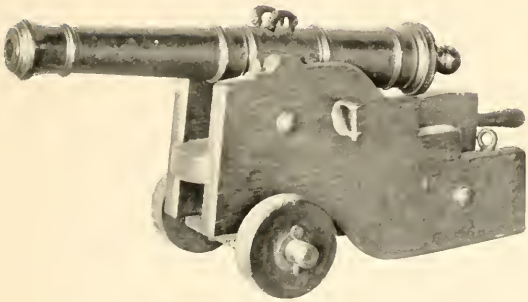
198 Model of 1861, United States Navy Percussion Rifle (with saber bayonet), cal. .69 Made by Eli Whitney, Whitneyville, Conn. Stamped on the lock "WHITNEY-VILLE." Known as the Plymouth Rifle. Has a projection rear of guard-bow for the third finger. Large head on ramrod. Used in United States Navy during Civil War.

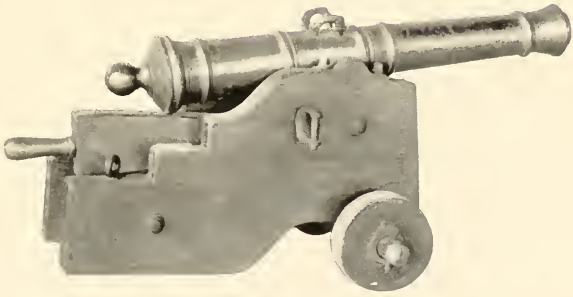
199 Model of 1863, United States Rifled Percussion Musket (with bayonet), cal. .58 Marked, "SAVAGE R. F. A. CO., MIDDLETOWN, CONN., 1863." A relic of the Civil War, Union side.

Note.—The Savage Repeating Fire-arms Co. was given a contract Sept. 9th, 1862, for 25,000 arms of above pattern, which contract was increased 12,000 Feb. 25th, 1864, at $18 each. They delivered in all 25,500.

200 Model of 1863, United States Rifled Percussion Musket (with bayonet), cal. .58 Made by Norwich Arms Co., Connecticut. (Gun is Model of 1861. Lock is Model of 1863, and stamped "1864," "U. S.," "NORWICH.")

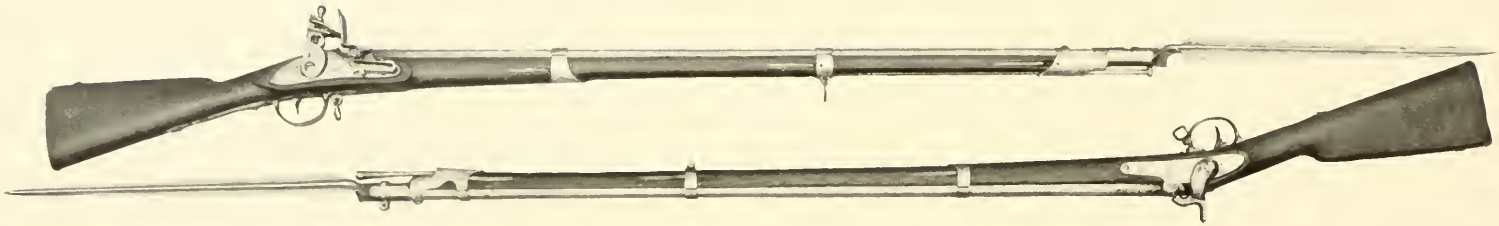
Note.—The Norwich Arms Co. made a contract with the government April 1st, 1864, for 10,000 arms, which was increased 15,000 Oct. 18, 1864. Price, $18 and $19 each. They delivered both lots, 25,000 in all.





EXHIBITS G AND H. PAIR OF BRASS CANNONS.

Length 28 inches, bore 1¾ inches. The inscription on them is as follows: "ME FECIT CIPRIANUS CRANS IANSZ AMSTELODAMI, A. D. 1745." These cannons are beautiful specimens; are somewhat smaller than the type that were captured from the British at Bunker Hill in 1775. From the collection of A. Gerald Hull of Saratoga, N. Y., who died February, 1893.



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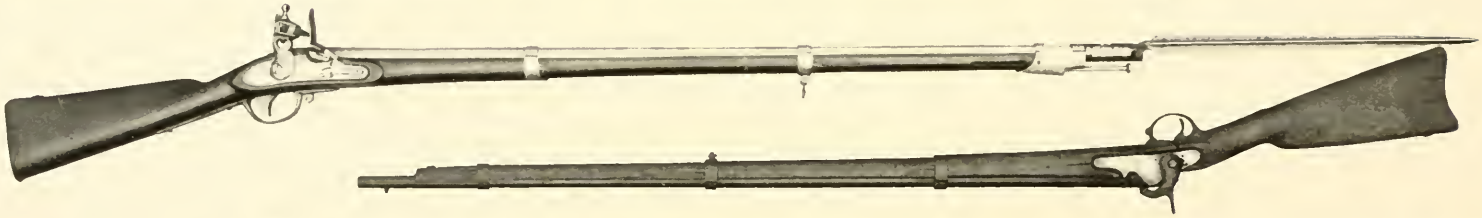

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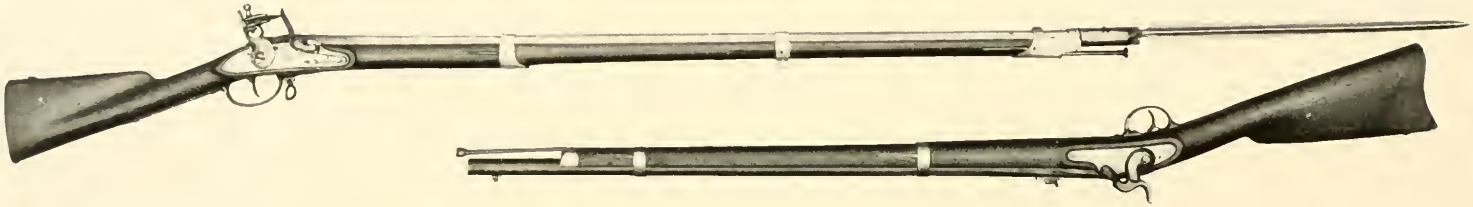

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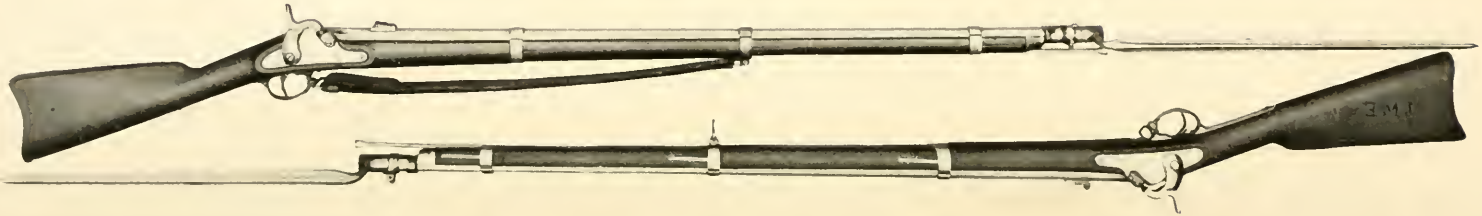

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Case No. 12.

"Confederate" Guns Used in the Civil War, 1861-1865.

201 Model of 1808, United States Flint-lock Smooth-bore Musket (with bayonet), cal. .69 Stamped on the lock "C. S. A." (Confederate States of America), and between the cock and pan "S.C." On the barrel and stock "P.M., S.J. III I. M. South Carolina." Used in the Confederate Army at beginning of the war.

202 Model of 1822, United States Flint-lock Smooth-bore Musket (with bayonet), cal. .69 Stamped on the lock "U. S.," and "C. S." "NORTH CAROLINA." Relic of the Civil War, Confederate Army.

203 Model of 1808, United States Flint-lock Smooth-bore Musket (with bayonet), cal. .69 Stamped on the lock "J. STATE," an [illegible], and "NEW HAVEN." "C. S." stamped on the lock-plate during Civil War. Marked on the stock, "*28th Reg. South Carolina.*" Used in the Confederate Army.

204 Confederate Rifled Musket, cal. .58 Percussion. The lock-plate forged for a primer-lock, Model of 1855, either at Harper's Ferry before Apr. 18, 1861, or at Richmond, Va., with machinery taken from the Ferry. Lack of time, etc., prevented new dies being manufactured, which accounts for the tape-lock blanks seen on Confederate-made arms.

205 Model of 1842, United States Smooth-bore Percussion Musket (with bayonet), cal. .69 Made at Springfield Armory, Mass., in 1850. The first model of Percussion musket issued. A few were used in the Mexican War. History as given by its former owner: "This gun belonged to L. G. Perry, Dublin, Ga., who was a soldier in the Confederate Army during the Civil War. Mr. Perry belonged to a company in the Fourteenth Georgia Regiment, and was stationed at Ox Ridge, Sept. 1, 1862, when General Phil. Kearney, mistaking the Confederate lines for Federal, rode into or close to the Confederate camp; realizing his mistake, ordered to halt, and seeing the Confederate guns pointed at him, said: 'Don't fire; I am a friend.' Saying this, he wheeled his horse and put off at full speed, to escape if possible. He lay flat on his horse to escape the bullets whistling in the air near him. But one fatal shot struck and killed him, and it is said by authority of Mr.

Perry and others of his company that this gun was the one that sent the fatal bullet that killed General Phil. Kearney, Sept. 1, 1862." This gun was presented to this collection by Captain E. A. Perry of Hartford, Conn., who is a brother of L. G. Perry, deceased, of Dublin, Ga., and from whom he received the gun with its history.

206 Confederate Rifled Musket, cal. .58 Percussion. Stamped on the lock "1863," "C. S.," "RICHMOND, VA." Put out of order in the battle of Cold Harbor, Va., June, 1864.

207 Confederate Rifle, cal. .58 Percussion. Stamped on the lock "1863," "C. S. A" under 🦅, "FAYETTEVILLE." Brass-mounted.

Note.—The machinery used for making rifles at Harper's Ferry was moved to Fayetteville, North Carolina, by the Confederate government in 1861. Nearly all Confederate-made arms are brass-mounted. The die used to stamp the eagle and C. S. A on arms made by Confederate government at Fayetteville, N. C., came from Harper's Ferry. The U. S., which was originally under the eagle, was cut out and C. S. A (the S inverted) were "keyed" in.

208 Confederate Rifled Musket (with bayonet), cal. .58 Percussion. Stamped on the lock "1863," "C. S." "RICHMOND, VA." Cut on the stock "T. W. E."

Note.—The lock-plate on this gun was forged for a "Maynard Primer," which device had been condemned after trial as worthless. Machinery used in manufacturing this lock had been removed to Richmond, Va., from Harper's Ferry, and the "tape-lock" plates were made up without the magazine, lack of time, etc., preventing new dies being made. Rifled muskets were made at Richmond with machinery secured at Harper's Ferry in 1861.

At the beginning of the Civil War the military arms to fall into the hands of the Confederates were:

Arsenal at	Muskets. Percussion.	Muskets. Flint-lock alt. to Percussion.	Rifles. Percussion.
Charleston, S. C.	9,280	5,720	2,000
Fayetteville, N. C.	15,480	9,520	2,000
Augusta, Ga.	12,380	7,620	2,000
Mt. Vernon, Ala.	9,280	5,720	2,000
Baton Rouge, La.	18,580	11,420	2,000
Total	65,000	40,000	10,000

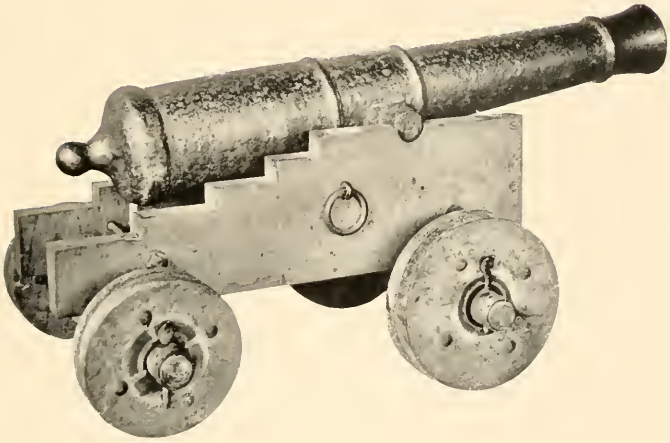
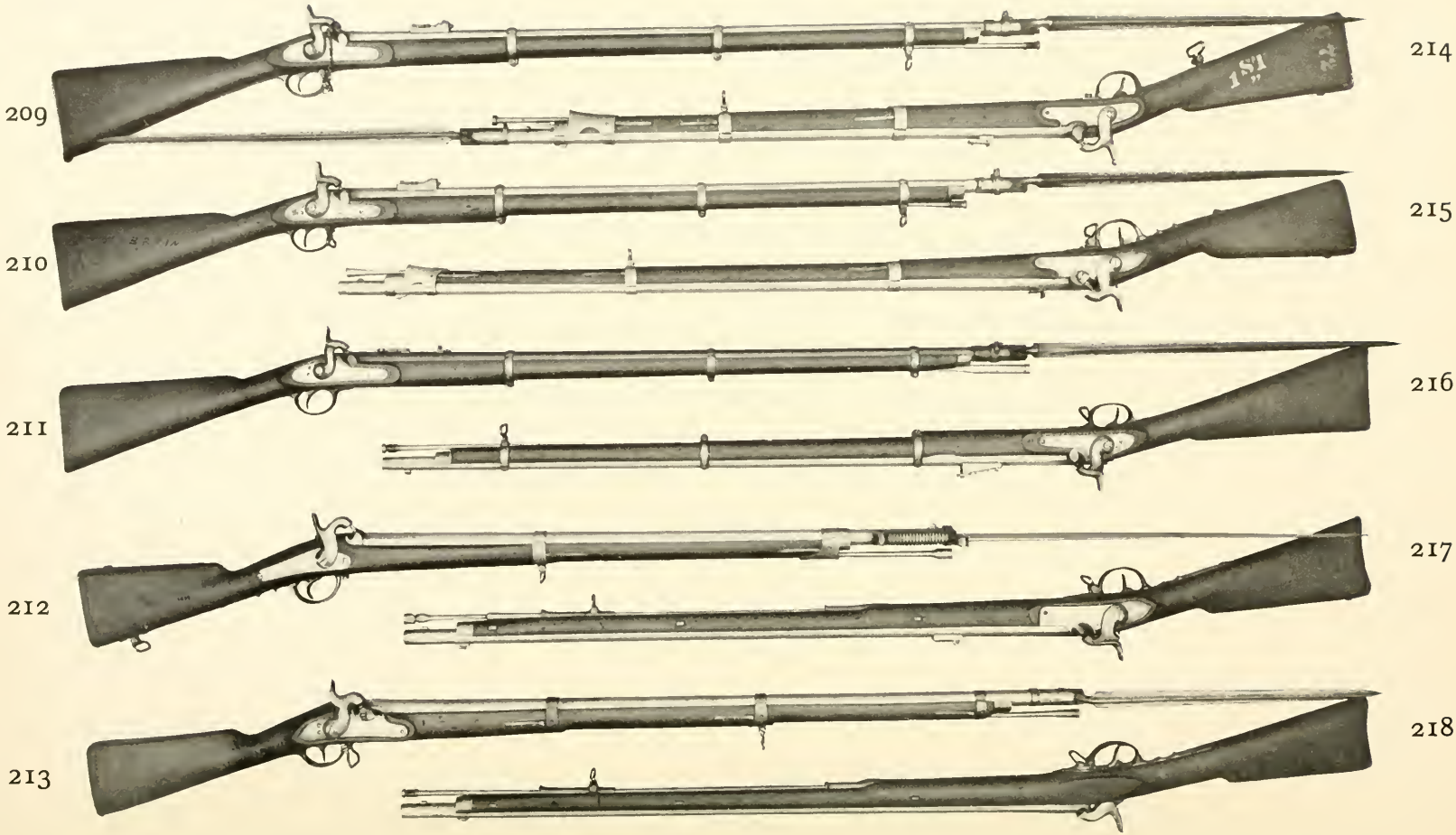


EXHIBIT I. REVOLUTIONARY CANNON.

Revolutionary Iron Cannon, length 4 feet 7 inches, bore 2½ inches; was in the American service at Yorktown, Va., when Lord Cornwallis surrendered, October, 1781.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Case No. 13.

FOREIGN-MADE GUNS USED IN THE CIVIL WAR, 1861-1865.

209 English "Enfield" Rifled Musket (with bayonet), cal. .577 Percussion, with safety cone protector, held by chain fastened to the trigger-guard. Marked, "POTTS & HUNT, LONDON."

210 English "Enfield" Rifled Musket (with bayonet), cal. .577 Percussion. Stamped on the lock "TOWER" "1862." On the stock is carved "M. S. FERRIN."

211 English "Enfield" Rifled Musket (with bayonet), cal. .577 Percussion. Stamped on the lock "V. R." "1863." Marked on the stock, "B.O.M., ENFIELD."

212 French Rifled Musket (with saber bayonet), cal. .70 Percussion. Marked, "I. SCHOPEN, ALIGE."

213 German Rifled Musket (with bayonet), cal. .70 Percussion. Stamped on the lock *F. W.* under German crown, and "*Saarn,*" "1832." This gun is numbered 104,774.

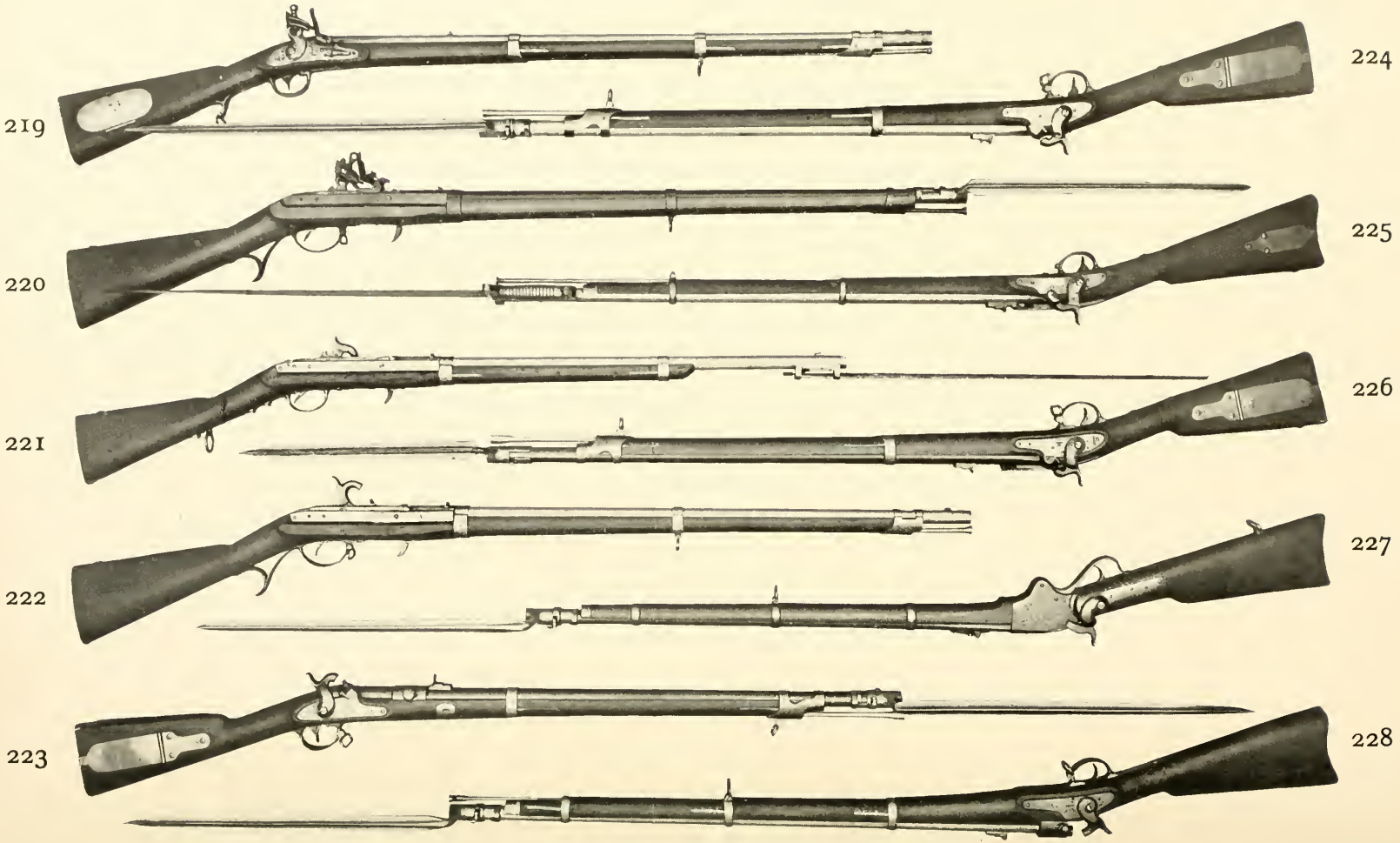
214 Austrian Smooth-bore Musket (with bayonet), cal. .70 Flint-lock altered to Percussion. Marked on the barrel, "D, 29th." On the stock "1st C. 72."

215 Belgian Smooth-bore Musket, cal. .70 Percussion. Marked, "S. BLASIEN."

216 English "Enfield" Rifled Musket (with bayonet), cal. .577 Percussion. Stamped on the lock, "TOWER" and "1862." Marked on the barrel, "COMPANY B. 59th."

217 Bavarian Rifled Musket, cal. .70 Percussion. Brass-mounted. Marked, "LEMILLE." On the stock are the initials "E.A.R.," a star, and "C. WHITE."

218 Bavarian Smooth-bore Musket, cal. .70 Percussion. Cone is near the centre of the barrel. Brass-mounted. Marked, "CRANPIN, HERZBURG."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Case No. 14.

United States Breech and Muzzle Loading Guns Used in the Civil War (1861-1865).

219 Model of 1819, United States Flint-lock Rifle, cal. .54 Stamped on the lock "1829" "U. S." "S. NORTH, MIDDLETOWN, CONN" Heavy barrel, small lock, oval patch-box, iron cover; rear sling swivel is on a branch extending backwards from the guard-bow. Iron-mounted and browned, except side-plate and bands. Ramrod has brass tip.

Note.—Contracts for the manufacture of this rifle were issued to Simeon North of Middletown, Conn.; Henry Derringer of Philadelphia, Pa.; Nathan Starr, Middletown, Conn., and R. & D. Johnson, Middletown, Conn., in 1820.

220 Model of 1832, Hall's Breech-loading Flint-lock Rifle, cal. .535 Paper cartridge. Stamped on the lock "JOHN H. HALL, HARPER'S FERRY" "U. S." "1832" The first breech-loading arm ever patented in the United States, and the first or earliest breech-loader adopted and used by any army. Patented by William Thornton and John H. Hall, May 21st, 1811.

221 Hall's Breech-loading Percussion Carbine (with sliding bayonet), cal. .52 Paper cartridge. Col. John H. Hall's patent, with North's device. Marked, "S. NORTH, MIDDLETOWN, CONN., 1839."

Note.—This arm resembles the Hall, other than it is provided with a bayonet, which consists of a blade sliding under the barrel. Similar to Greener's pencil-case bayonet. North's device consists of a lever on the side of lock, holding it closed. 3520 purchased by United States government during Civil War.

222 Hall's Breech-loading Percussion Rifle, cal. .54 Paper cartridge. Col. John H. Hall's patent. Made at the Hall Rifle Works, Harper's Ferry, in 1831.

223 "Windsor" Rifle (with bayonet), cal. .54 Marked, "ROBBINS & LAWRENCE, WINDSOR, VT., 1849." Altered to a Linder breech-loading rifle, using paper cartridge, and patented March 29, 1859, by the Amoskeag Mfg. Co., Manchester, N. H., in 1862.

Note.—Before alteration this gun was similar to the "Mississippi" rifle (also known as the "Yerger") made at Harper's Ferry.

224 "Windsor" Rifle (with bayonet), cal. .54 Percussion. Brass-mounted, with patch-box. Marked, "ROBBINS & LAWRENCE, WINDSOR, VT., 1850."

Note.—This rifle (already referred to in No. 223) was first made at Harper's Ferry Armory, and was the third model of United States rifle (1842). The first was the Model of 1814, Harper's Ferry rifle; and the second the common rifle, Model 1819. The State of Massachusetts owned 1739 Windsor rifles Dec. 31st, 1861.

225 Merrill's Breech-loading Rifle (with saber bayonet), cal. .54 Merrill's patent, July, 1858, and May 21 and 28, 1861. Paper cartridge. Marked, "J. H. MERRILL, BALTIMORE, MD." 14,495 purchased by the United States government during the Civil War.

226 Model of 1842, United States Rifle (with bayonet), cal. .54 (Harper's Ferry Yerger.) Made at the Harper's Ferry Armory, 1850. Altered to a Merrill breech-loading rifle in 1859.

227 Spencer Repeating Breech-loading Rifle, cal. .56 Patented March 6, 1860. Seven shots. Metallic cartridge. Marked, "SPENCER REPEATING ARMS CO., BOSTON, MASS." 94,156 purchased by the United States government during the Civil War.

228 Joslyn Breech-loading Rifle, cal. .56 B. F. Joslyn's patent, No. 42,000, March 22, 1864. Metallic cartridge, rim fire. Made by the government at Springfield Armory in 1864. 11,261 purchased by the United States government during the Civil War.

Number of shots per minute with Breech-loading Rifles, government test, in 1866.

Henry,	25	Poultney,	16	Joslyn,	8
Berdan,	18	Remington,	15	Berg,	8
Ballard,	18	Spencer,	15	Maynard,	7
Peabody,	17	Allen,	14	Starr,	6
Cochran,	16	Smith,	14	Merrill (revolving),	6
National,	16	Sharps,	12		

HALL'S RIFLE.

In 1664 Abraham Hall, of England, was granted a patent for a "gun or pistoll which hath a hole at the upper end of the breech to receive the charge, which hole is opened or stopped by a piece of iron or steel that lies along the side of the piece and is movable."

May 21, 1811, a patent was issued to William Thornton and John H. Hall for a breech-loading rifle (flint-lock). This was the first breech-loading arm manufactured in this country. Col. John H. Hall, the inventor, was from North Yarmouth, Maine, formerly a part of Massachusetts, and at least one beautiful fowling-piece made by him is known to exist. (In the author's collection.)

During Supt. Stubblefield's administration at Harper's Ferry, about 1816, the government having concluded to adopt the gun into its service, Col. Hall was sent there to superintend its manufacture. Two buildings on "The Island" up the river were set apart for him, and he continued making the Hall rifle in those shops until 1840, when he moved to Missouri. After this period, other buildings were erected on the same island for the manufacture of the "Yerger Rifle," but the place retained the name of "Hall's Works," by which it was known in Hall's time. No fighting or attempt to hold prisoners occurred there during the John Brown raid in 1859.

Hall's is the first patent recorded, and the evidence, sustained by the records of the Ordnance Bureau, prove that John H. Hall was the inventor of the first breech-loading arm receiving attention from the government. In a letter addressed to Col. Bomford of the Bureau of Ordnance dated January 24, 1815, Hall writes:

"I invented the improvement in 1811, being at that time but a little acquainted with rifles, and being perfectly ignorant of any method whatever of loading guns at the breech."

He at a later date suggested the manufacture of 1000 of his patent rifles. Official records indicate that in 1816, 100 of these arms were made and issued to a company of riflemen, and that the reports thereon were favorable. In 1825 two companies of U. S. troops, stationed at Fortress Monroe, were armed with Hall's rifles, and were using the same in 1827, during which year 2000 more were completed.

There is evidence the rifle was used successfully in the Black Hawk and Seminole wars, also in the Mexican War, and while not generally known, it is a fact quite a number were used in the Civil War.

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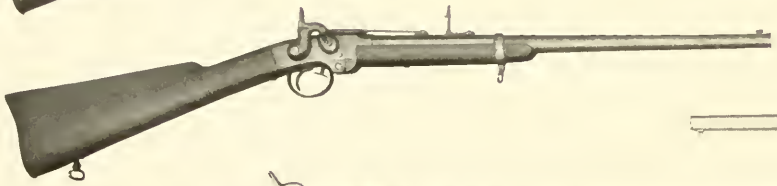

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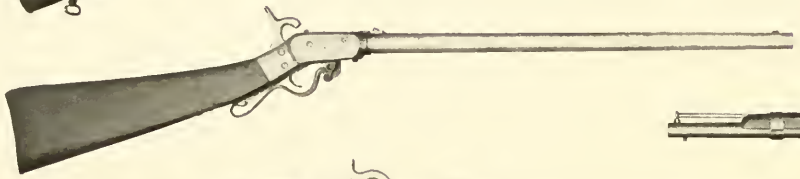

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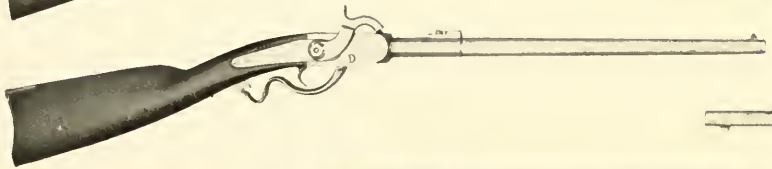

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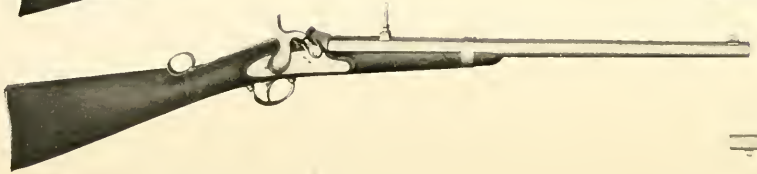

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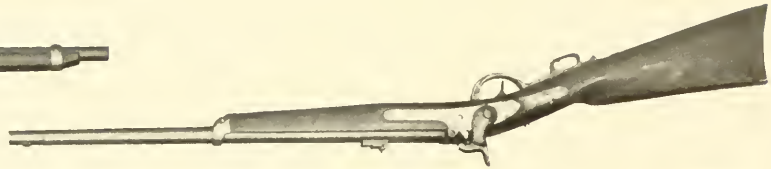

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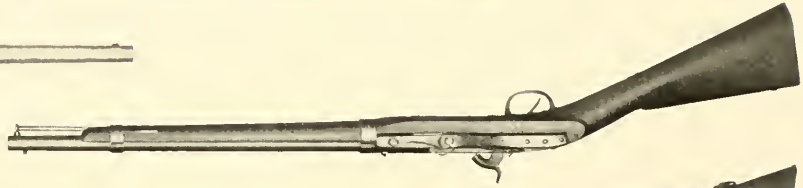

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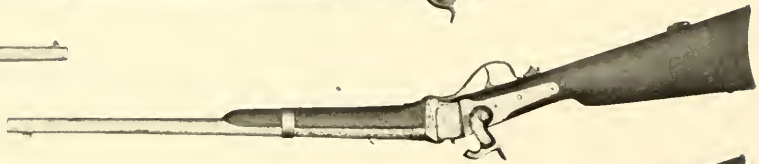

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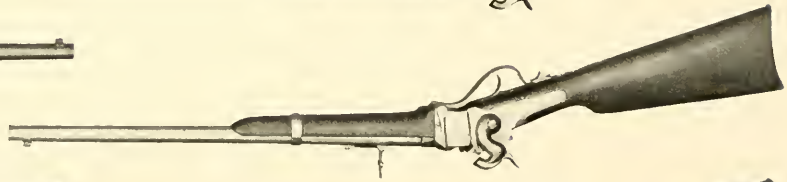

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Case No. 15.

Carbines Used in the Civil War, 1861-1865.

229 Jenks' Breech-loading Rifled Navy Carbine, cal. .54 Paper cartridge, hammer on side of the barrel, cocks by opening outward. Barrel is opened by drawing back top lever. (Similar to the Merrill.) W. Jenks' patent, No. 747, May 25th, 1838. Marked, "N. P. AMES ARMS CO., SPRINGFIELD, MASS., 1845." Made for the United States Navy, and used in the Civil War.

230 Smith's Breech-loading Rifled Carbine, cal. .52 Rubber cartridge. Barrel connected with butt by a hinge below and held by a long spring on top of the barrel. Spring lifted by a lever in front of the trigger. G. Smith's patent, No. 15,496, Aug. 5th, 1856. Marked, "AMERICAN ARMS CO., CHICOPEE FALLS, MASS." 30,062 purchased by the government during the Civil War.

231 "Perry" Confederate Breech-loading Rifled Carbine, cal. .52 Paper cartridge, brass breech-block, similar construction as the "Burnside" heavy barrel.

232 "Cosmopolitan" or "Union" Breech-loading Rifled Carbine, cal. .50 Paper cartridge. E. Gwyn & A. C. Campbell's patent, No. 36,709, Oct. 21st, 1862. Marked, "GWYN & CAMPBELL, HAMILTON, OHIO." 9342 purchased by the United States government during the Civil War.

233 Starr's Breech-loading Rifled Carbine, cal. .54 Paper cartridge. E. S. Starr's patent, No. 21,523, Sept. 14th, 1858. Marked, "STARR ARMS CO., YONKERS, NEW YORK." 25,603 purchased by the United States government during Civil War.

234 Joslyn's Breech-loading Rifled Carbine, cal. .54 Paper cartridge. B. F. Joslyn's patent, No. 13,507, Aug. 28th, 1855. Marked, "B. F. JOSLYN FIRE-ARMS CO., STONINGTON, CONN." 11,261 purchased by the United States government during Civil War.

235 Gibbs' Breech-loading Rifled Carbine, cal. .52 Paper cartridge. Has leaf-sights. Barrel moves forward and the rear tilts up to load. L. H. Gibbs' patent, No. 14,057, Jan. 8th, 1856. Marked, "WILLIAM F. BROOKS, NEW YORK, 1863." 1052 purchased by the government during the Rebellion. Very scarce.

236 Gallager's Breech-loading Rifled Carbine, cal. .54 Paper cartridge. M. J. Gallager's patent, No. 29,152, July 17th, 1860. Marked, "RICHARDSON & OVERMAN ARMS CO., PHILADELPHIA, PA." 22,728 purchased by the United States government during the Civil War.

237 Hall's Breech-loading Carbine, cal. .52 Col. John H. Hall's patent, with North's improvement, by which the lock is held closed by a side lever instead of an under-catch. The original catch was liable to catch in the clothing, etc., and open the breech accidentally. A soldier might carelessly blow off his thumb. Marked, "S. NORTH, MIDDLETOWN, CONN., 1847."

238 Sharps' Model, Breech-loading Carbine, cal. .54 Paper cartridge. Brass-mounted. This carbine, known as the "Richmond Carbine" and as the "Confederate Sharps," is one of many made in 1862 and '63 by S. G. Robinson, Richmond, Va. Made for the Confederate government after the Sharps model. During the siege of Richmond buried uncased by the Confederates, and dug up and sold by the Federal government.

Note. Confederate-made arms are usually brass-mounted.

239 "Sharps'" Model of 1863, Breech-loading Carbine, cal. .52 Paper cartridge. C. Sharps' patent, No. 5763, Sept. 12th, 1848. Marked, "SHARPS RIFLE MFG. CO., HARTFORD, CONN." 80,512 purchased by United States government during Civil War.

Note.—Sharps' arms were used in United States Army as early as 1846, in the Mexican War, and were the first carbines to replace the discarded "Hall."

240 Merrill's Breech-loading Rifled Carbine, cal. .54 Paper cartridge. Brass-mounted. J. H. Merrill's patent, No. 20,954, July 20th, 1858; Nos. 32,032, 32,033, April 9th, 1861; No. 32,451, May 28th, 1861, and No. 33,536, Oct. 22d, 1861. Breech closed by a plunger connected to a lever on top of barrel, hinged at its rear. Resembles the Jenks Navy Carbine already described. Has no cartridge extractor, cartridge being entirely consumed. Copper face on the end of plunger to act as a gas check and seat the cartridge without exploding it. Marked, "J. H. MERRILL, BALTIMORE, MD." 14,495 purchased by the United States government during Civil War.

EXHIBIT J. REVOLUTIONARY SWIVEL IRON CANNON.

Length 28 inches, bore $1\frac{3}{4}$ inches. Has the English crown on it. Taken off one of the war-vessels in the British fleet at Charleston, S. C., during the Revolutionary War.

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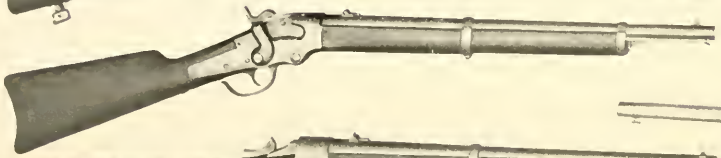

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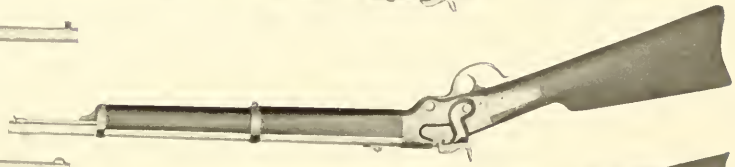

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Case No. 16.

CARBINES USED IN THE CIVIL WAR, 1861-1865.

241 Remington's Breech-loading Rifled Carbine, cal. .56 Metallic cartridge, rim fire. Joseph Rider's patents, No. 40,887, Dec. 8th, 1863 (reissued May 3d, 1864), and No. 45,123, Nov. 15, 1864. Marked, "REMINGTON ARMS CO., ILION, N. Y."

242 Maynard's Breech-loading Rifled Carbine, cal. .50 Metallic cartridge, fired with a percussion cap. The cartridge has a large, wide head, with a small hole admitting the fire from the cap when fired. Dr. Edward Maynard's patents, No. 8126, May 27, 1851, and No. 26,364, Dec. 6th, 1859. Marked, "MASSACHUSETTS ARMS CO., CHICOPEE FALLS, MASS." 20,002 purchased by the United States government during Civil War.

243 Sharps & Hankins' Breech-loading Rifled Carbine, cal. .56 Metallic cartridge, rim fire. Operated by a lever underneath the barrel. Christian Sharps' patent, No. 22,752, Jan. 25th, 1859. Marked, "SHARPS & HANKINS, PHILADELPHIA, PA." Purchased by the government during the Civil War. Rare.

244 Warner's Breech-loading Rifled Carbine, cal. .50 Metallic cartridge, rim fire. Brass frame. Breech-block hinged to the right side and fastened when closed by a catch on opposite side. Has extractor operating separately by a slide under the barrel, similar to the Ballard. James Warner's patents, No. 41,732, Feb. 23d, 1864, and No. 45,660, Dec. 27th, 1864. Marked, "JAMES WARNER, SPRINGFIELD, MASS." 4001 purchased by the United States government during the Civil War. Rare.

245 Triplett & Scott's Breech-loading Rifled Carbine, cal. .50 Metallic cartridge, rim fire. Is a magazine carbine. Loads from front of butt; barrel revolves on an axis parallel to the barrel, until it opens magazine, and loads. Extractor is worked by the rotation of the barrel. Louis Triplett's patent, No. 45,361, Dec. 6th, 1864. Marked, "MERIDEN MFG. CO., MERIDEN, CONN." A few were used by the United States government in Civil War.

Note.—Also called Scott & Triplett's carbine.

246 Ball's Breech-loading Rifled Carbine, cal. .56 Metallic cartridge, centre fire. A magazine gun. Breech-block is so made that when once closed, it can not be opened until hammer is down. Operated by a lever underneath. Magazine is under the barrel, loads at rear. Albert Ball's patent, No. 38,935, June 23d, 1863,

(reissued); also No. 43,827, Aug. 16th, 1864. Marked, "E. G. LAMSON ARMS CO., WINDSOR, VT." 1002 purchased by the United States government during Civil War.

247 Ballard's Breech-loading Rifled Carbine, cal. .44 Metallic or paper cartridge, center fire. C. H. Ballard's patent, No. 33,631, Nov. 5th, 1861. Marked, "BALLARD ARMS CO., FALL RIVER, MASS." Merwin & Bray, N. Y. agents. U. S. purchased 1509.

248 Remington Breech-loading Rifled Carbine, cal. .56 Metallic cartridge. Joseph Rider's patents, No. 40,887, Dec. 8, 1863 (reissued May 3d, 1864), and No. 45,123, Nov. 15, 1864. Marked, "REMINGTON ARMS CO., ILION, N. Y." 20,000 purchased by the United States.

249 Palmer Breech-loading Rifled Carbine, cal. .56 Metallic cartridge, rim fire. William Palmer's patent, No. 41,017, Dec. 22d, 1863. A bolt-gun with side-lock. Is not closed like the ordinary door-bolt (needle-gun or chassépot), but has a sectional screw at rear end. Similar to the "French breech-screw." Marked, "E. G. LAMSON ARMS CO., WINDSOR, VT." 1001 purchased by United States government during Civil War. Rare.

250 Ball's Breech-loading Rifled Carbine, cal. .56 See No. 246.

251 Starr Breech-loading Rifled Carbine, cal. .56 Paper cartridge, paper cap originally; altered to metallic cartridge, rim fire. E. T. Starr's patent, No. 21,523, Sept. 14th, 1858. Marked, "STARR ARMS CO., YONKERS, N. Y." 25,603 purchased.

252 Joslyn Breech-loading Rifled Carbine, cal. .56 Metallic cartridge, rim fire. B. F. Joslyn's patent, No. 13,507, Aug. 28, 1855, and No. 15,240, July 1, 1856. Marked, "B. F. JOSLYN FIRE-ARMS CO., STONINGTON, CONN." 11,261 purchased.

253 Spencer Repeating (Magazine) Rifled Carbine, cal. .56 Metallic cartridge. C. M. Spencer's patent, No. 27,393, March 6, 1860. Has a thin, removable steel loading-chamber, which can be taken out and reloaded. Marked, "SPENCER REPEATING RIFLE CO., BOSTON, MASS." 94,156 purchased.

254 Burnside's Breech-loading Rifled Carbine, cal. .54 Metallic cartridge, fired with a percussion cap. Movable chamber pivoted in front under the barrel. In closing, the breech-block has a forward movement, pushing the cartridge, which is tapering, into the barrel. Center fire, the brass cartridge being perforated in the center of base, exploded by the fire of a percussion cap. A. F. Burnside's patent, No. 14,491, March 25th, 1856. Made by the Burnside Rifle Co., Providence, R. I. 55,567 purchased by the U. S. government during Civil War.

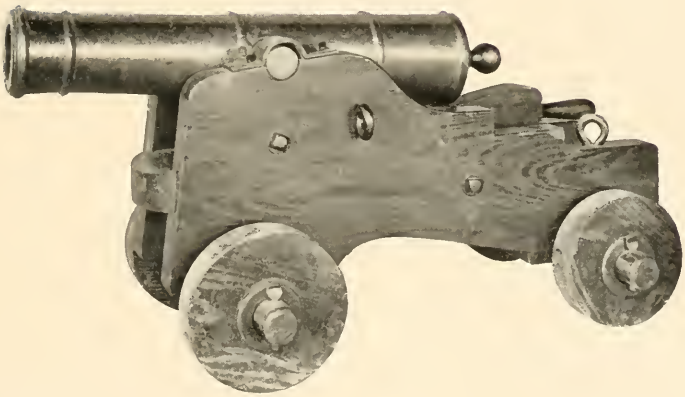
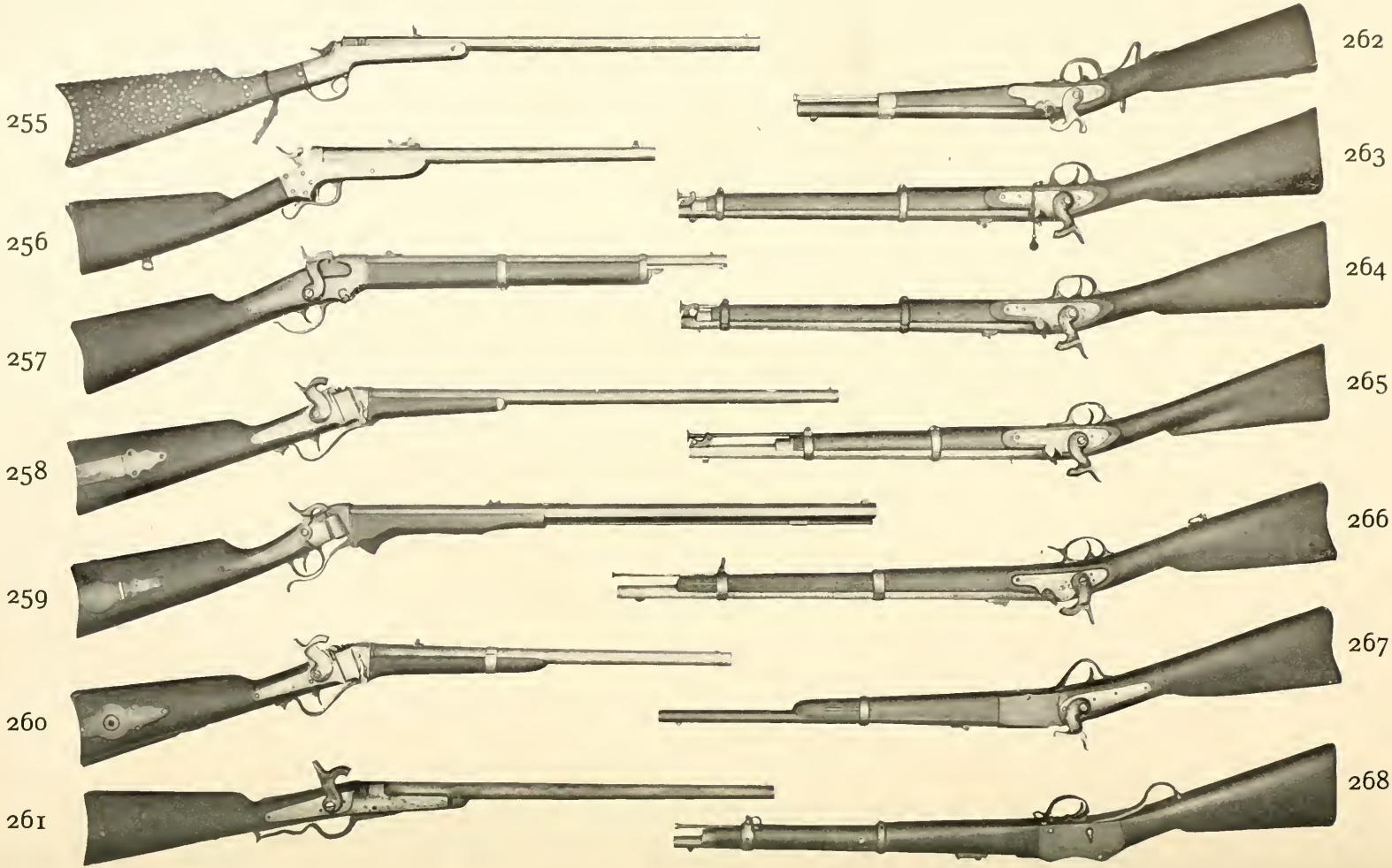


EXHIBIT K. BRASS HOWITZER.

Length 30 inches, bore 3 inches. It is authentically stated that this howitzer was in service in the Mexican War and did good work at the battle of Vera Cruz, March 23 to 26, 1847. From A. Gerald Hull's collection, Saratoga, N. Y.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Case No. 17.

Carbines Used in the Civil War, 1861-1865.

255 Wesson's Breech-loading Rifled Carbine, cal. .44 Metallic cartridge, rim fire. Franklin Wesson's patents, No. 25,926, Oct. 25, 1859, and No. 36,925, Nov. 11, 1862. The rear of barrel tilts up for loading, being hinged to the stock below. No extractor. Barrel held closed by a spring catch. 151 purchased by the United States government during the Civil War. By some means this carbine fell into the hands of the Indians. History as given by Buckskin Joe: "I, with Tanning Iron and Tanning Hoe, while hunting on the Middle Fork of the Flat Head River, I found a large Indian tepee, snowed up. I dug the snow off, and there were two Indian bucks and one squaw. They were frozen stiff. I think they got there, and got snowed in, and starved to death. I took the rifle from the tepee, Nov. 23, 1889. Signed, Buckskin Joe, hunter, trapper, and guide." The stock is ornamented with brass tacks.

256 Sharps & Hankins' Breech-loading Rifled Carbine, cal. .56 Metallic cartridge, rim fire. Christian Sharps' patent, No. 22,753, Jan. 25th, 1859. Operated by a lever underneath the barrel. Depressing the lever moves the barrel forward for insertion of the cartridge. Marked, "SHARPS & HANKINS, PHILADELPHIA, PA." Used in the Civil War by Union troops.

257 Ball's Breech-loading Rifled Magazine Carbine, cal. .56 Metallic cartridge, center fire. (See No. 246 for description.)

258 Sharps' Breech-loading Shot-gun, cal. .70 C. Sharps' patent. Can be loaded as breech-loader or muzzle-loader. Marked, "SHARPS RIFLE CO., HARTFORD, CONN."

259 Sharps' Breech-loading Rifle, cal. .38 Paper cartridge. Octagon barrel. Patch-box. Maynard's primer-lock patent 1845 (not the pattern of 1855, but of equal value). Marked, "MAYNARD GUN CO., CHICOPEE FALLS, MASS."

260 Sharps' Breech-loading Rifled Carbine, cal. .52 Paper cartridge, with coffee-mill attachment in the butt of the stock. Christian Sharps' patent, No. 5763, Sept. 12th, 1848. Made by Sharps Rifle Co., Hartford, Conn. Used in the Confederate Army during Civil War. Coffee-mill in the butt of the stock for the soldier to grind his coffee. Very few of them were made. During the Civil War this carbine was captured with many

others by the United States. The United States government sent about 4000 Sharps rifles and carbines to Sharps' rifle factory at Hartford, Conn., to be repaired, and this carbine was found among the lot.

261 Gallager's Breech-loading Rifled Carbine, cal. .54 Linen cartridge. Mahlon J. Gallager's patent, No. 29,157, July 17th, 1860. Marked, "RICHARDSON & OVERMAN, PHILADELPHIA, PA." Civil War relic. From battle of Barryville, Va., Sept. 3, 1864.

262 Austrian Carbine, cal. .75 Percussion. A worthless arm, purchased in large quantities by the United States government in the beginning of the Civil War, at an average price of about $16 each. Issued to cavalry and soon discarded.

263 English Carbine, cal. .577 Percussion. Has nipple protector, held by chain fastened to guard-bow. Swivel ramrod. Iron-mounted. Marked, "BARNETT, LONDON." This arm was used on both sides in the Civil War. Taken from a blockade runner captured off Cuba in 1861.

264 English "Enfield" Carbine, cal. .577 Percussion. Swivel ramrod. Marked, "BARNETT, LONDON." Used in Civil War, Confederate Army.

265 Confederate Carbine, cal. .58 Percussion, Swivel ramrod. Brass-mounted. On the lock in rear of hammer is stamped Confederate flag; in front of hammer, "COOK & BROTHER" "ATHENS GA." and "2719" in one line; under the name, "1864."

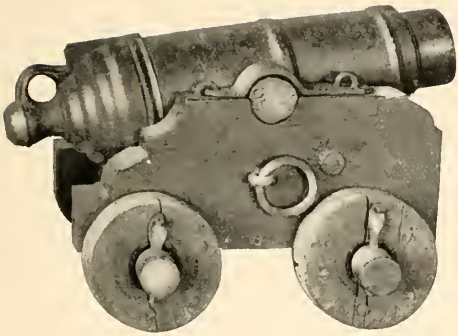
Note.—This arm was known as Cook's Musketoon.

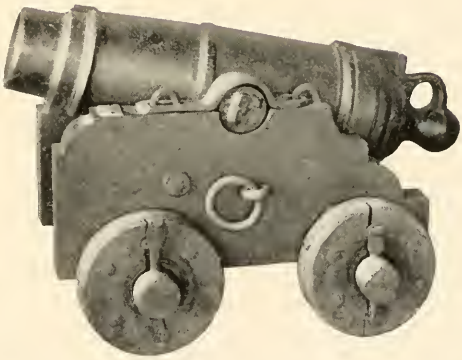
266 Confederate Carbine, cal. .58 Percussion. Stamped on the lock "CS" "RICHMOND, VA" "1864" Relic of Civil War.

267 Peabody Breech-loading Rifled Carbine, cal. .50 Metallic cartridge, rim fire. H. O. Peabody's patent, No. 35,947, July 22d, 1862; reissue, No. 2197, March 13th, 1866. Marked, "PROVIDENCE TOOL CO., PROVIDENCE, R. I."

268 Peabody Martini Breech-loading Rifled Carbine, cal. .45 Hammerless metallic cartridge. Marked, "PROVIDENCE TOOL CO., PROVIDENCE, R. I." 600,000 Peabody arms made for the Turkish government, 1873.

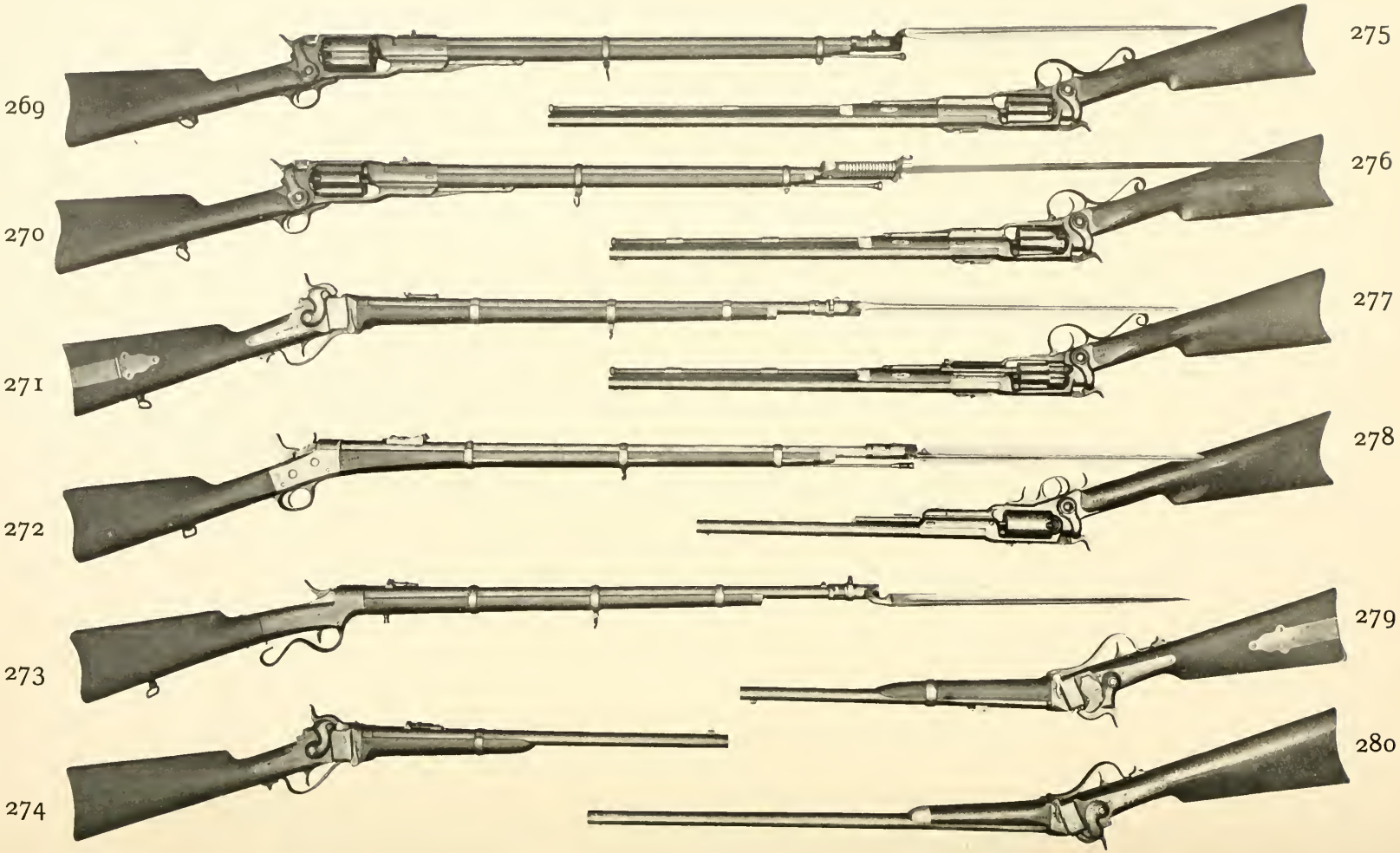
Note.—The "Peabody" system, appropriated by the English, to which was added the device of the Swiss, Martini, was re-christened, with the addition of the "Henry" rifling, the "Martini Henry" (1875-1890).





EXHIBITS L AND M. PAIR OF SIGNAL-GUNS.

Length 23½ inches, bore 3 inches. From the old whaling ship "New England." In 1841 this noted whaler sailed from New London to the whaling grounds in the neighborhood of Greenland, and remained in service until 1860. These guns were used for salutes, on entering ports or passing friendly vessels, and for guiding back the harpoon crew in case they might be out of sight of the whaler. It was not an infrequent occurrence that the harpoon crew were swept out of sight in pursuing the monsters of the deep. But the crew were almost invariably sure of being guided back by the signal-gun, which was fired from time to time on shipboard.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Case No. 18.

Breech-loading Rifles.

269 Colt's Revolving Breech-loading Rifle (with bayonet), cal. .56 Five shots. Paper cartridge. Samuel Colt's patent, No. 18,678, Nov. 24th, 1857. Marked, "COLT'S FIRE-ARMS MFG. CO., HARTFORD, CONN."

270 Colt's Revolving Breech-loading Rifle (with saber bayonet). (See No. 269.)

271 Sharps' Breech-loading Rifle (with bayonet), cal. .52 Linen cartridge. Primer-lock. Patch-box. C. Sharps' patent, No. 5763, Sept. 12, 1848. Marked, "SHARPS RIFLE MFG. CO., HARTFORD, CONN."

272 Remington Breech-loading Rifle (with bayonet), cal. .56 Metallic cartridge, rim fire. Jos. Rider's patents, No. 40,887, Dec. 8th, 1863; reissued, No. 1663, May 3, 1864, and No. 45,123, Nov. 15, 1864. Marked, "E. REMINGTON ARMS CO., ILION, N. Y."

273 Ballard Breech-loading Rifle (with bayonet), cal. .56 Metallic cartridge, rim fire. C. H. Ballard's patent, No. 33,631, Nov. 5th, 1861. Marked, "BALLARD ARMS CO., FALL RIVER, MASS."

274 Sharps' Breech-loading Carbine, cal. .52 Paper cartridge. C. Sharps' patent, No. 5763, Sept. 12, 1848. Marked, "SHARPS RIFLE MFG. CO., HARTFORD, CONN."

275 Colt's Breech-loading Revolving Rifle, cal. .36 Six shots. Percussion. Paper cartridge. S. Colt's patent, No. 7613, Sept. 3d, 1850. Marked, "COLT'S FIRE-ARMS MFG. CO., HARTFORD, CONN."

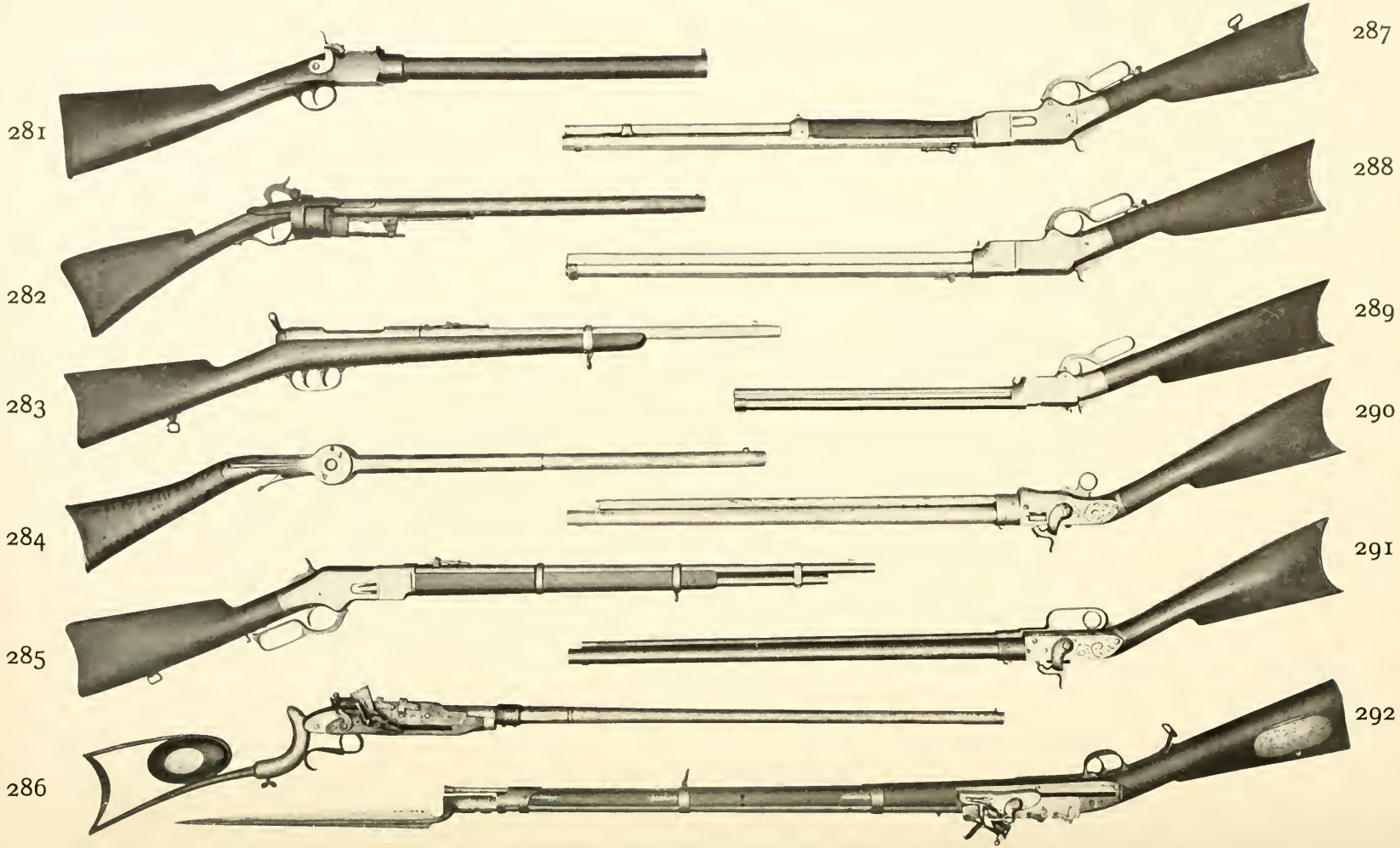
276 Colt's Breech-loading Revolving Rifle, cal. .38 (Sporting rifle.) Six shots. Altered to metallic cartridge, center fire, with extractor. Marked, "COLT'S FIRE-ARMS MFG. CO., HARTFORD, CONN."

277 Colt's Breech-loading Revolving Rifle, cal. .36 (See No. 276.)

278 Colt's Breech-loading Revolving Carbine, cal. .36 (See No. 276.)

279 Sharps' Breech-loading Rifled Carbine, cal. .52 Percussion. Linen cartridge. Maynard primer-lock. Patented 1845. The cartridge was inserted whole, the block in rising shearing off its base by the sharp edge of its face. Cartridge was fired by exploding a primer. Made by Sharps Rifle Co., Hartford, Conn.

280 Sharps' Breech-loading Rifle, cal. .52 Percussion. Linen cartridge. Finely engraved. Christian Sharps' patent, No. 33,607, Oct. 29th, 1861. Made by Sharps Rifle Co., Hartford, Conn.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Case No. 19.

Repeating Arms.

281 Russian Breech-loading Carbine, cal. .32 Percussion. Brass barrel, having seven chambers. Removable brass breech-block. From battle-field of Port Hudson, La., July, 1863. Picked up by a member of the 12th Regt., Conn. Vols.

282 "Hale" Breech-loading Revolving Sporting Rifle, cal. .44 Eleven shots. Percussion. "Inventor's" model. A crude, home-made affair. Only one made. John Hale, Occoquan, Va., 1859.

283 Brown Breech-loading Rifled Bolt Carbine, cal. .44 Metallic cartridge. Marked, "BROWN MFG. CO., NEWBURYPORT, MASS."

284 Boyington Breech-loading Rifle, cal. .50 Percussion. Cylinder holds one cartridge and is revolved by a lever. Proving a failure, no more were made. John Boyington, South Coventry, Conn., in 1845.

285 Winchester Repeating Magazine Army Rifle, cal. .44 Metallic cartridge. An improvement on Smith & Wesson's patent, Feb. 14, 1854. Improved by Henry patent, No. 30,446, Oct. 16, 1860; Nelson King's improvement patents, No. 55,012, May 22, 1866, and No. 57,636, Aug. 28th, 1866. Marked, "WINCHESTER REPEATING ARMS CO., NEW HAVEN, CONN."

286 Jennings' Repeating Flint-lock Gun, cal. .54 Three shots. Loads at muzzle, one charge over the other. Lock slides from one vent to the others. Skeleton stock, ornamented with silver. Marked, "L. JENNINGS, NEW YORK."

287 Henry Magazine Rifle, cal. .44 Tyler Henry's patent, improved; patent reissued. Loading at side. Marked, "NEW HAVEN ARMS CO., NEW HAVEN, CONN."

288 Henry Magazine Rifle, cal. .44 Rim or center fire, metallic cartridge. Sliding carrier block. Magazine similar to "Volcanic." Tyler F. Henry's patent, No. 30,446, Oct. 16th, 1860 (reissued Dec. 8, 1868). Marked, "NEW HAVEN ARMS CO., NEW HAVEN, CONN."

Note.—Tyler Henry was a first-class workman of many years' experience. Employed back in the forties by Robbins & Lawrence, Windsor, Vt., he conceived the ideas embodied in this arm; the difference between the Henry and Winchester,

which came out later, consists mainly in the manner of charging the magazine. The Winchester loaded at the rear, the magazine having a hinged lid. The Henry has a movable muzzle section, similar to the Volcanic.

289 "Volcanic" Breech-loading Magazine Rifle, cal. .38 Metallic cartridge. Magazine under the barrel. Loads at muzzle end. Cartridges forced back by a spring. Opening lever cocks the hammer, ejects the shell, and forces cartridge up. H. Smith & D. B. Wesson's patent, No. 10,535, Feb. 14th, 1854. Sold to Volcanic Repeating Arms Co., New Haven, Conn. Forerunner of the "Winchester."

290 Jennings' Improved Repeating Breech-loading Rifle, cal. .54 See below for patent and description.

291 Jennings' Repeating Breech-loading Rifle, cal. .54 Percussion. A magazine extending under the barrel holding twenty cartridges. L. Jennings' patent, No. 6973, Dec. 25th, 1849. Marked, "ROBBINS & LAWRENCE, WINDSOR, VT.," for Mr. C. C. Palmer, New York.

292 Model of 1819, United States Flint-lock Rifle (with bayonet), cal. .54 Altered to a repeating rifle. Four shots. Marked, "S. NORTH, MIDDLETOWN, CONN., 1822."

Note.—Erroneously called "North's Rifle." Has stamped on the barrel, as required by United States government, letters "U. S." and inspector's initials "A. H." The steel-covered patch-box was original.

There were manufactured at the two National Armories for the year ending September, 1842, 16,295 muskets. Some progress had been made in providing models and in the fabrication of parts of percussion arms. The Armories had been placed under the immediate direction of ordnance officers—a change afterward sanctioned by law. Repairs being deemed necessary at both Armories the majority of the help were discharged, 60 to 100 men being retained at Harper's Ferry to finish up some carbines.

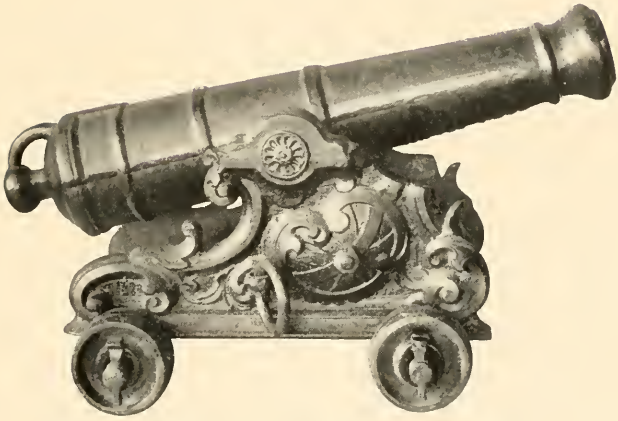
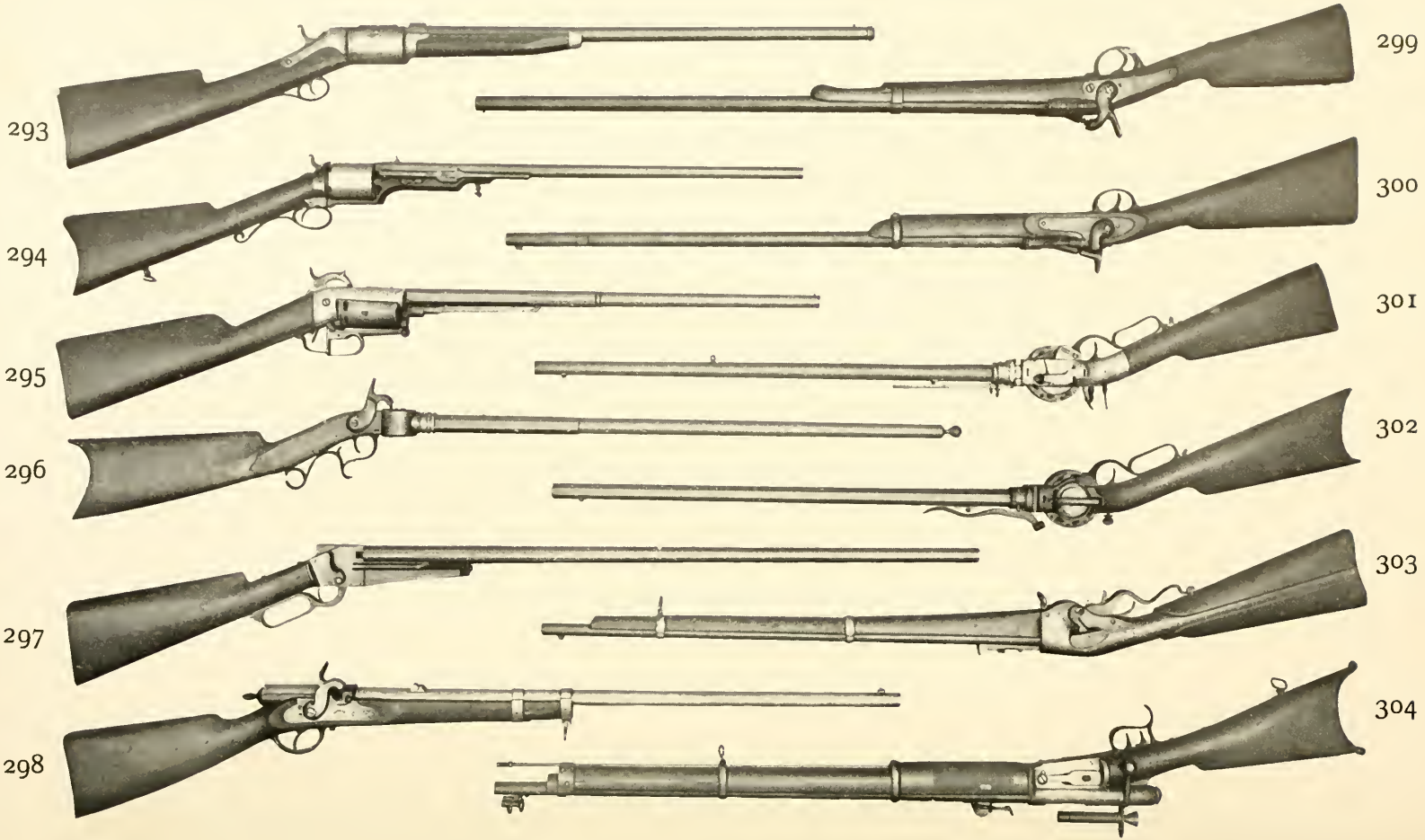


EXHIBIT N. OLD IRON CANNON.

Length 34 inches, bore 2 inches. This cannon was taken from a blockade runner which was captured by the United States steamer "Resolute," July 25, 1861.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Case No. 20.

Magazine and Revolving Rifles.

293 Roper Revolving Breech-loading Shot-gun, cal. .64 Four shots. S. H. Roper's patent, No. 53,881, April 10th, 1866. Marked, "ROPER REPEATING ARMS CO., AMHERST, MASS."

294 Colt's Breech-loading Revolving Rifle, cal. .54 Six shots. Percussion. Paper cartridge. Samuel Colt's patent. Marked, "COLT'S PATENT ARMS MFG. CO., PATERSON, N. J.," about 1840. No. 202.

Note.—Known as the "Paterson." (See "Paterson" revolver, No. 698.)

295 North Breech-loading Revolving Shot-gun, cal. .60 Six shots. Percussion. Finely engraved. North & Skinner's patent, No. 8982, June 1st, 1852. Marked, "H. S. NORTH, MIDDLETOWN, CONN.," for C. F. Roberts, Hartford, Conn.

296 Breech-loading Rifle, cal. .44 Percussion. Paper cartridge. Has cylinder, with one chamber turning one quarter round, on an axis vertical to the barrel, to load.

297 Weaver Breech-loading Shot-gun, cal. .70 H. B. Weaver's patent, No. 13,691, Oct. 16th, 1855. Chamber swings laterally. Hammer raised by lever. Paper cartridge. Tape lock. Marked, "H. B. WEAVER, SOUTH WINDHAM, CONN."

298 German Breech-loading Bolt Rifle, cal. .58 Percussion. Paper cartridge. Stamped on the lock, "1864," ♛, and "AMBERG." Used in Confederate Army, Civil War.

299 English "Minié" Musket, cal. .702 Percussion, altered to "Snider" breech-loader. This gun, in its original form, was the forerunner of the "Enfield."

300 English "Enfield" Musket, cal. .577 Percussion, altered to "Snider" breech-loader, firing the "Boxer" cartridge (metallic). Stamped on the lock, "TOWER" "1861."

301 Porter's Revolving Breech-loading Rifle, cal. .50 Eight shots. Percussion. Paper cartridge. P. W. Porter's patent, No. 8210, July 18, 1851. Cylinder revolves on horizontal axis at right angle to the barrel. Marked, "P. W. PORTER, NEW YORK."

302 Porter's Revolving Breech-loading Rifle, cal. .50 Nine shots. Percussion. Paper cartridge. P. W. Porter's patent, No.

8210, July 18th, 1851. Marked, "P. W. PORTER, NEW YORK."

303 Evans' Breech-loading Magazine Rifle, cal. .44 Has magazine in the stock holding thirty-two metallic cartridges. Warren R. Evans' patent, No. 119,020, Sept. 19, 1871. Marked, "EVANS REPEATING RIFLE CO., MECHANIC FALLS, ME."

304 Swiss Telescope Breech-loading Magazine Rifle, cal. .38 Percussion. Holds eight steel shells, each having a cone for percussion cap. Loaded on right side. Globe-sights. On frame is stamped "KELLER A. ADRAU." On plate is stamped "TEAN LIVIC."

Few breech-loading arms other than the "Hall" were tried or used up to the commencement of the Civil War. Among the principal ones were the Sharps, Burnside and Spencer, of which a few were issued to troops between 1845 and 1860. The Maynard was also issued, but not to any extent. In 1857 the Burnside was approved by an Army Board convened at West Point. They were of the opinion, however, that the breech-loader was not perfected, and were unfavorably inclined to its adoption. At the outbreak of the Rebellion the Ordnance Bureau was unable to supply the demand for arms, and everything serviceable was purchased.

The appended list shows the number of breech-loading arms purchased during the war:

1,059	Ballard	3,520	Hall	80,512	Sharps
1,002	Ball	11,261	Joslyn	30,062	Smith
55,567	Burnside	14,495	Merrill	94,156	Spencer
9,342	Cosmopolitan or Union	892	Linder	25,603	Starr
22,728	Gallager	20,002	Maynard	4,001	Warner
1,052	Gibbs	1,001	Palmer	151	Wesson
		20,000	Remington		

PRIVATE ARMORIES.

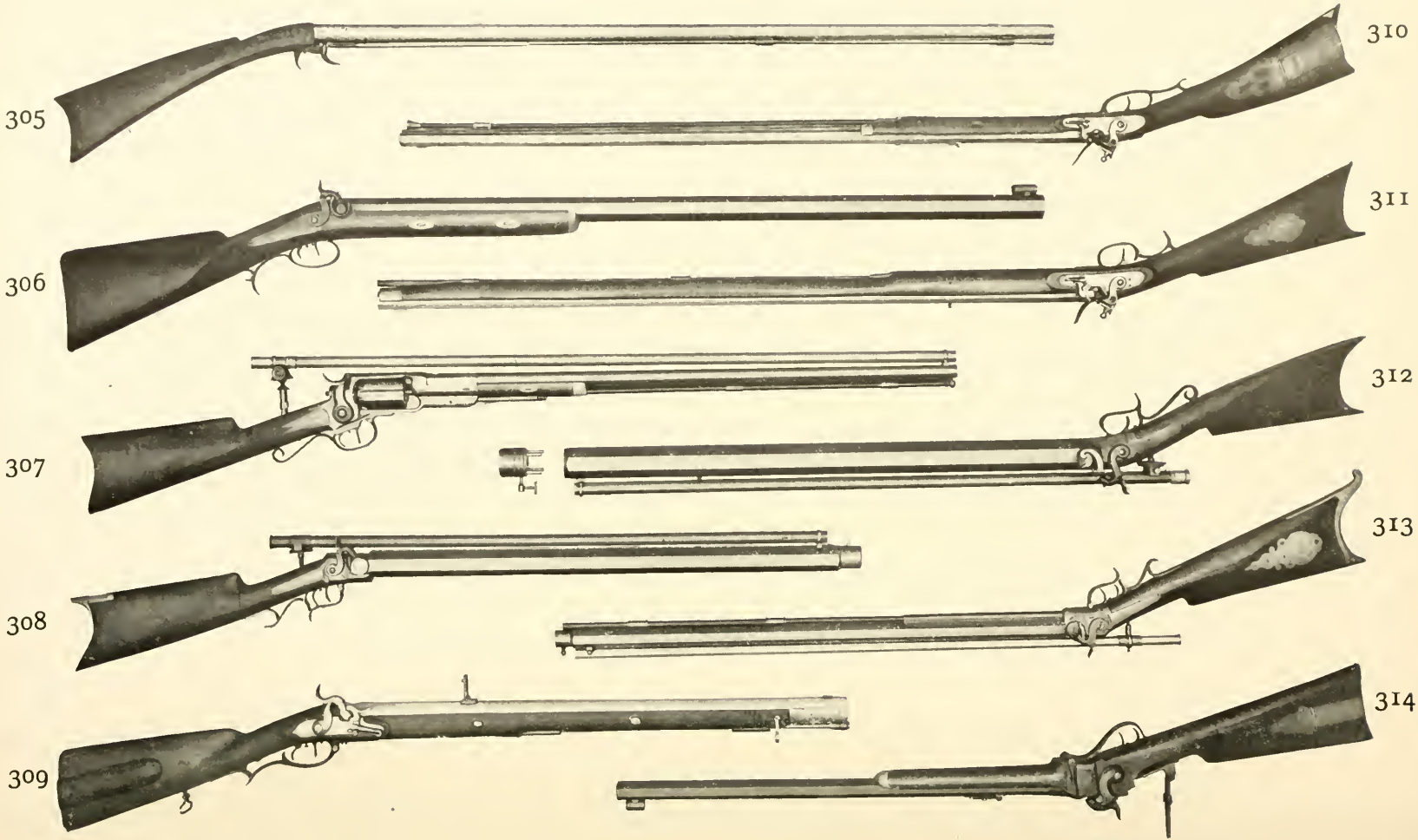
The National Armories at Springfield, Mass., and Harper's Ferry, Virginia, having been established, Congress in 1808 enacted a standing law requiring the annual payment from the U. S. Treasury of $200,000 for the six Private Armories which were established that year. From among the most prominent gunmakers were selected: Asa Waters, of Sutton (now Millbury), Mass.; Simeon North, of Middletown, Conn.; Nathan Starr, of Middletown, Conn.; Eli Whitney, of Whitneyville (near New Haven), Conn.; Henry Derringer, of Philadelphia, Pa.; and Lemuel Pomeroy, of Pittsfield, Mass.

Contracts were issued to them for a term of years, which were renewed from time to time, until 1840.

These Private Armories were regarded as permanent, having been publicly recognized by the government as a part of the United States force for the supply of arms. In 1845, when the last contracts expired, the whole system was broken up, without notice. The contractors were paid but little above the actual cost of making similar arms at the National Armories. The armorers at Springfield and the Ferry being paid by the day, had no motive to invent labor-saving machinery; the contractors were therefore obliged to make discoveries and improvements to increase their profit. Naturally, while very few inventions of importance were ever made at Springfield or the Ferry, a great many were brought out in the Private Armories.

The six Private Armories assured, the government proceeded to issue contracts for arms, to supply the militia. The first contractors were:

Name.	Location.	Date of Contract, 1808.	Number Delivered Dec., 1812.
W. & I. I. Henry,	Pennsylvania,	June 30	5754
Goetz & Westphall,	Pennsylvania,	July 13	1481
John Miles,	New Jersey,	July 20	6793
Winner, Nippes & Co.,	Pennsylvania,	July 20	5100
Waters & Whitmore,	Massachusetts,	Sept. 8	2000
Ethan Stillman,	Connecticut,	Sept. 14	1675
Daniel Gilbert,	Massachusetts,	Oct. 13	4125
French, Blake & Kingsley,	Massachusetts,	Oct. 20	1825
I. & C. C. Barstow,	New Hampshire,	Oct. 21	875
Wheeler & Morrison,	Virginia,	Oct. 21	2375
Oliver Bidwell,	Connecticut,	Oct. 25	3250
O. & E. Evans,	Pennsylvania,	Oct. 25	2040
Stephen Jenks & Son,	Rhode Island,	Oct. 25	1700
R. & C. Leonard,	Massachusetts,	Oct. 29	2875
A. & P. Bartlett,	Massachusetts,	Oct. 31	1000
Rufus Perkins,	Massachusetts,	Oct. 31	2300
I. I. & N. Brooke,	Pennsylvania,	Nov. 1	2743
W. & H. Shannon,	Pennsylvania,	Nov. 9	2899
Sweet, Jenks & Sons,	Rhode Island,	Nov. 13	2750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Case No. 21.

Telescope and Sporting Rifles.

305 "Ruggles'" Rifle, cal. .52 Percussion. Hammer is on under side of barrel. Marked, "RUGGLES, STAFFORD HOLLOW, CONN.," about 1830.

306 Sharps' Sporting Rifle, cal. .60 Percussion. Octagon barrel, with globe-sight. Made by Sharps Rifle Mfg. Co., Hartford, Conn.

307 Colt's Telescope Breech-loading Revolving Rifle, cal. .36 Six shots. Paper cartridge. Samuel Colt's patent, No. 7629, Sept. 10th, 1850. Marked, "COLT'S FIRE-ARMS CO., HARTFORD, CONN." Many used in Civil War.

308 Telescope Rifle, cal. .50 Percussion. Heavy octagon barrel. Silver-mounted. Marked, "DWIGHT SPENCER, WEST HARTFORD, CONN." Telescope made by Colt. Owned by Rufus King, Hartford, Conn.

309 Prussian Rifle, cal. .58 Percussion. Walnut stock. Heavy octagon barrel, adjustable sights. Has a nipple guard, held by a battery spring. Hair trigger. Brass-mounted. Patch-box having sliding wood cover. Relic of the Civil War.

Note.—A lot of these old rifles were purchased and used by the Confederate government.

310 "Kentucky" Flint-lock Rifle, cal. .45 Long octagon barrel. Brass-mounted. Fancy patch-box. Finely engraved. Marked, "GEORGE GOULCHER." This rifle was once the property of an Indian by the name of Abram Antoine, who was chief of the Stockbridge tribe of Oneida Indians, New York State. He was a bad man, and killed many white people in his day with this rifle, in the vicinity of Morrisville, N. Y., from 1800 to 1822. The last white man he killed was a Mr. Jacobs, for which he was captured and hanged in 1823 in the village of Morrisville, N. Y. His daughter Mary was hanged five miles from Morrisville, in the village of Peterboro, for murdering a man before Antoine himself was hanged. The rifle was broken when Antoine was captured. It was repaired by putting a rib under the barrel. The rifle has been owned and used by many since Antoine was captured and hanged.

311 Indian Chief's Flint-lock Rifle, cal. .45 Heavy octagon barrel, finely engraved. Silver-mounted. Marked, "H. E. LEMAN,

LANCASTER, PA." Picked up on the battle-field of Wounded Knee Creek, near Pine Ridge, S. D., after the fight, Dec. 29th, 1890, by a member of Troop "A," 7th U. S. Cav., stationed at Fort Riley, Kan.

312 Telescope Rifle, cal. .52 Percussion. Heavy octagon barrel, having a false muzzle (protecting barrel and telescope), which has been removed in photograph to show its construction. Made for Berdan Sharpshooters by R. A. Moore, Courtland Street, New York. The rifle belonged to Captain Isaac P. Judson of New York, who was an expert rifleman, and belonged to the Berdan Sharpshooters. He used this rifle at Hampton Roads, Va., as well as in many other battles during the Civil War.

313 Telescope Rifle, cal. .42 Percussion. Octagon barrel. Silver-mounted. Stocked by Fidel Bubser, Hartford, Conn. Telescope. Marked, "DANIEL POTTER, HARTFORD, CT." An expensive, fine rifle in its day. Made by Kellogg, New Haven, Conn., in 1867. Formerly owned by Rufus King, Hartford, Conn.

314 Sharps' Sporting Breech-loading Rifle, cal. .44 Metallic cartridge, rim fire. Set or hair trigger. Octagon barrel, globe and peep sights. Patch-box. C. Sharps' patent, No. 22,752, Jan. 25, 1859. Marked, "SHARPS RIFLE MFG. CO., HARTFORD, CONN."

ARSENALS AND DEPOTS IN UNITED STATES IN 1822.

Watertown, Mass.; Watervliet, N. Y.; Rome, N. Y.; New York City; Frankford, Pa.; one near Baltimore; Newport, Ky.; Greenleaf's Point, D. C.; one near Richmond, Va.; Charleston, S. C.; (depot) Savannah, Ga.; Augusta, Ga.; New Orleans; Baton Rouge; Belle Fontaine; Detroit, Mich.; Springfield, Mass.; Harper's Ferry; (barracks) Carlisle, Pa.

In 1841 the arsenals in the United States were nineteen in number, as follows:

Alleghany, Apalachicola, Augusta, Baton Rouge, Champlain, Detroit, Fort Monroe, Frankford, Kennebec, Mt. Vernon (Ala.), Pikesville (N. C.), Rome (N. Y.), St. Louis, Washington, Watertown, Watervliet, Harper's Ferry and Springfield. There were five ordnance depots: Charleston, New York, Palatka, Rock Island and Tampa Bay.

ARMS MADE AND REPAIRED AT THE U. S. ARMORY AT SPRINGFIELD, MASS., FROM ITS ESTABLISHMENT TO THE CLOSE OF THE YEAR 1848.

Year.	Muskets.			Year.	Muskets.
1795	245			1822	13,200
1796	835			1823	14,070
1797	1,028	Bayonets.		1824	14,000
1798	1,434	390		1825	15,000
1799	4,595	4,595		1826	15,500
1800	5,304	5,304		1827	14,505
1801	3,205			1828	15,560
1802	4,358			1829	16,500
1803	4,775			1830	16,480
1804	3,566			1831	16,200
1805	3,535			1832	16,370
1806	2,018			1833	12,400
1807	5,692			1834	14,160
1808	5,870	Carbines.	Muskets Repaired.	1835	13,000
1809	7,070	600	1,086	1836	13,520
1810	9,700	602	1,406	1837	14,500
1811	12,020			1838	15,000
1812	10,140			1839	10,000
1813	6,920		11,105	1840	15,969
1814	9,585		5,475	1841	10,720
1815	7,279		21,145	1842	9,720
1816	7,199		5,125	1843	4,600
1817	13,015	Pistols.	454	1844	4,700
1818	12,000	1,000	110	1845	11,027
		Rifles.			
1819	12,000	250	80	1846	14,265
1820	13,200		259	1847	14,310
1821	13,000		80	1848	11,250

Cost of the workmanship of a musket complete in 1819 at Springfield:

Cost of manufacturing barrel	$1.31
Cost of manufacturing lock	2.10
Cost of mountings, with rod and bayonet	1.50
Cost of stocking and finishing	1.66
	$6.57

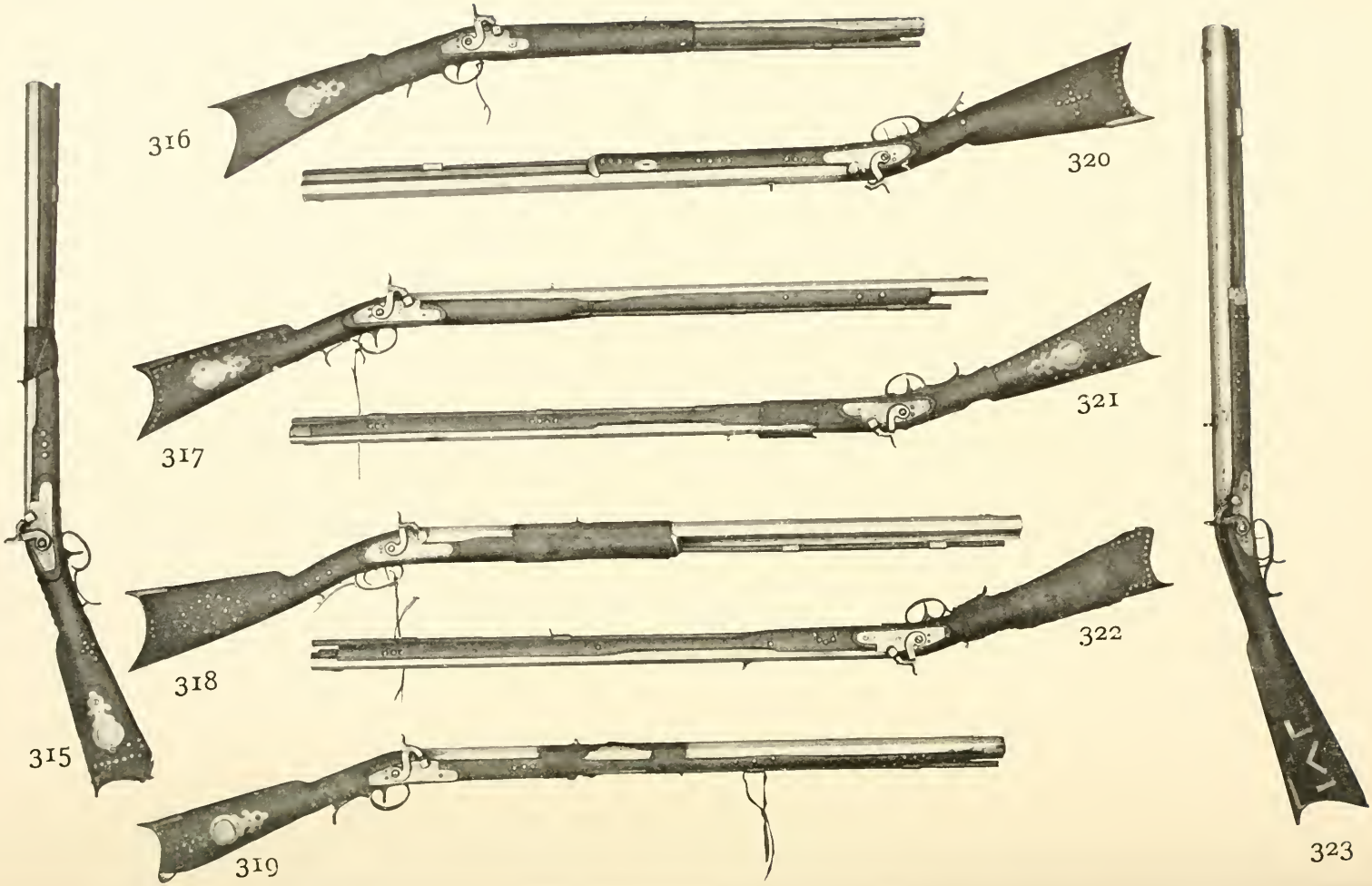
Expense of workmanship and materials, or musket complete:

20 lbs. iron, @ 8c	$1.60
3 lbs. steel, @ 16c	.48
Rough stock	.30
Coal	1.00
Files	.20
Labor	6.57
Wear of tools and machinery	1.00
	$12.40

Each workman stamps his work, and each inspector of it his.

STATEMENT OF ARMS MANUFACTURED AT THE SPRINGFIELD ARMORY DURING THE CIVIL WAR.

Year.	Number.	Cost Each.
1861	13,802	$13.11
1862	102,410	11.81
1863	217,784	10.69
1864	276,200	10.69
1865	195,341	14.12
	805,537	$11.70—Average.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Case No. 22.

INDIAN RIFLES. SOME OF THESE RIFLES WERE CAPTURED AND OTHERS SURRENDERED BY HOSTILE INDIANS (SIOUX AND CHEYENNE) SOON AFTER THE CUSTER MASSACRE, JUNE 26, 1876, ON THE LITTLE BIGHORN RIVER, WYOMING TERRITORY.

315 Indian Rifle, cal. .52 Percussion. Octagon barrel, maple stock; broken, and repaired with rawhide. Patch-box. Brass-mounted, and ornamented with brass tacks. Marked, "H. E. LEMAN, LANCASTER, PA."

316 Indian Rifle, cal. .54 Percussion. Octagon barrel, maple stock; broken, repaired with rawhide; much worn. Marked, "H. E. LEMAN, LANCASTER, PA."

317 Indian Rifle, cal. .52 Percussion. Octagon barrel, maple stock, with a bullet-hole through the butt near the patch-box. Brass-mounted, and ornamented with brass tacks. Marked, "H. E. LEMAN, LANCASTER, PA."

318 Indian Rifle, cal. .50 Percussion. Set (hair) trigger, octagon barrel, black walnut stock; broken, and repaired with rawhide. Iron-mounted, ornamented with brass tacks. Marked, "J. HENRY & SON."

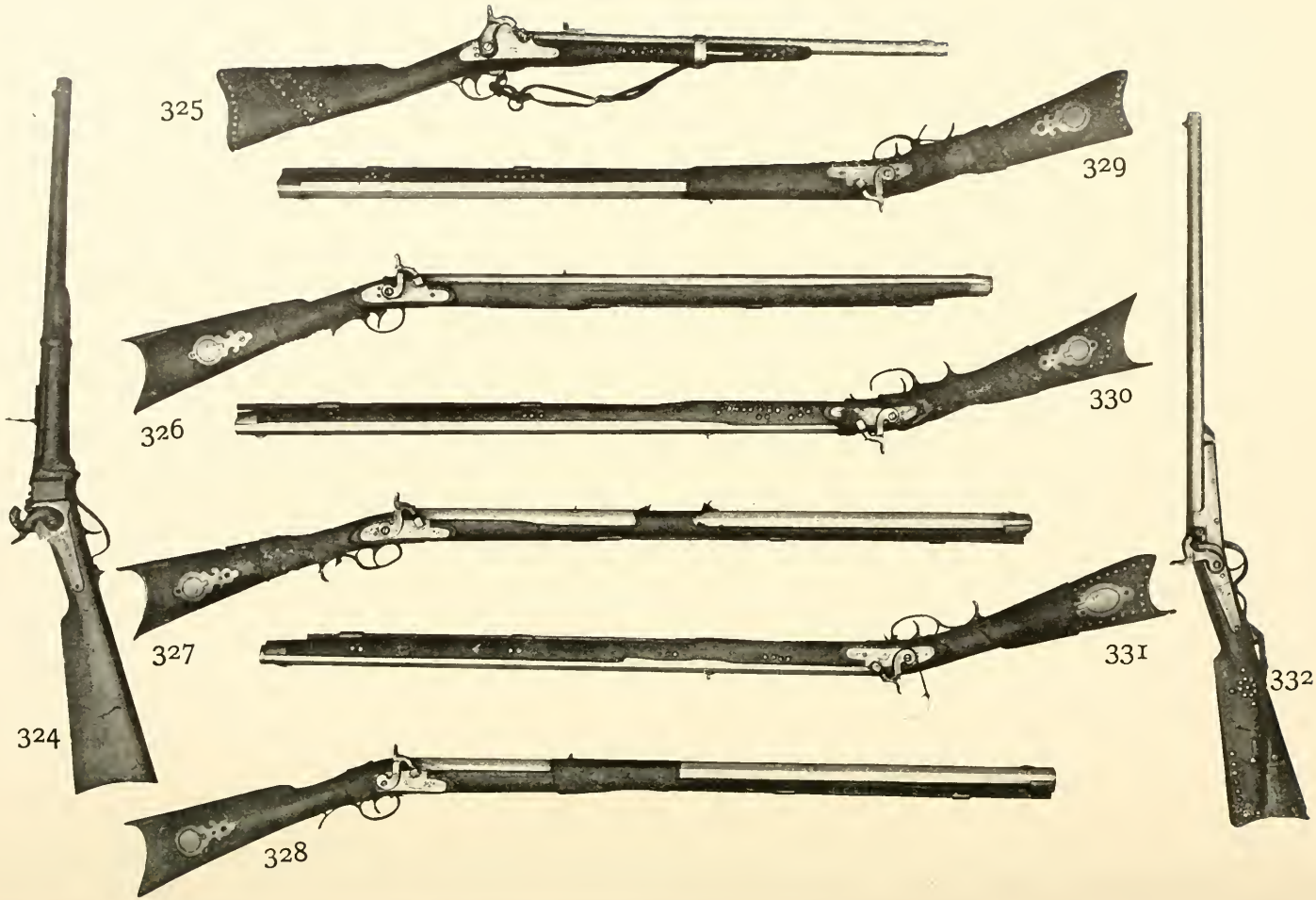
319 Indian Rifle, cal. .52 Percussion. Octagon barrel, maple stock; much worn, broken, and repaired with rawhide. Brass-mounted. Patch-box. Marked, "H. E. LEMAN, LANCASTER, PA."

320 Indian Rifle, cal. .52 Percussion. Set or hair trigger, octagon barrel, walnut stock, ornamented with brass tacks and rawhide; in very good order. Marked, "J. HENRY & SON."

321 Indian Rifle, cal. .52 Percussion. Octagon barrel, maple stock; badly used; ornamented with brass tacks. Brass-mounted. Patch-box. Marked, "H. E. LEMAN, LANCASTER, PA."

322 Indian Rifle, cal. .54 Percussion. Octagon barrel, maple stock; much worn; ornamented with brass tacks; butt of the stock nearly covered with rawhide. Brass-mounted. Marked, "H. E. LEMAN, LANCASTER, PA."

323 Indian Rifle, cal. .68 Percussion. Heavy, round barrel, black walnut stock, much worn. Iron-mounted. Marked, "G. D. & CO., CINCINNATI, OHIO."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Case No. 23.

INDIAN RIFLES. SOME OF THESE RIFLES WERE CAPTURED AND OTHERS SURRENDERED BY HOSTILE INDIANS (SIOUX AND CHEYENNE) SOON AFTER THE CUSTER MASSACRE, JUNE 26, 1876, ON THE LITTLE BIGHORN RIVER, WYOMING TERRITORY.

324 Sharps' Breech-loading Rifle, cal. .52 Paper cartridge. Primer-lock. C. Sharps' patent, Oct. 5, 1852. Marked, "SHARPS RIFLE MFG. CO., HARTFORD, CONN."

325 Indian Musket, cal. .58 Percussion. Barrel and stock cut down, walnut stock; much worn, and ornamented with brass tacks. Iron-mounted. Strip of buckskin hanging from guard-bow. Marked, "ELI WHITNEY, NEW HAVEN, CONN."

326 Indian Rifle, cal. .50 Percussion. Octagon barrel, maple stock; worn; has been broken, and repaired with rawhide. Marked, "H. E. LEMAN, LANCASTER, PA."

327 Indian Rifle, cal. .54 Percussion. Octagon barrel, maple stock, broken; much worn, repaired with rawhide. Brass-mounted. Marked, "J. GOULCHER."

Note.—This name also occurs "J. GOLCHER."

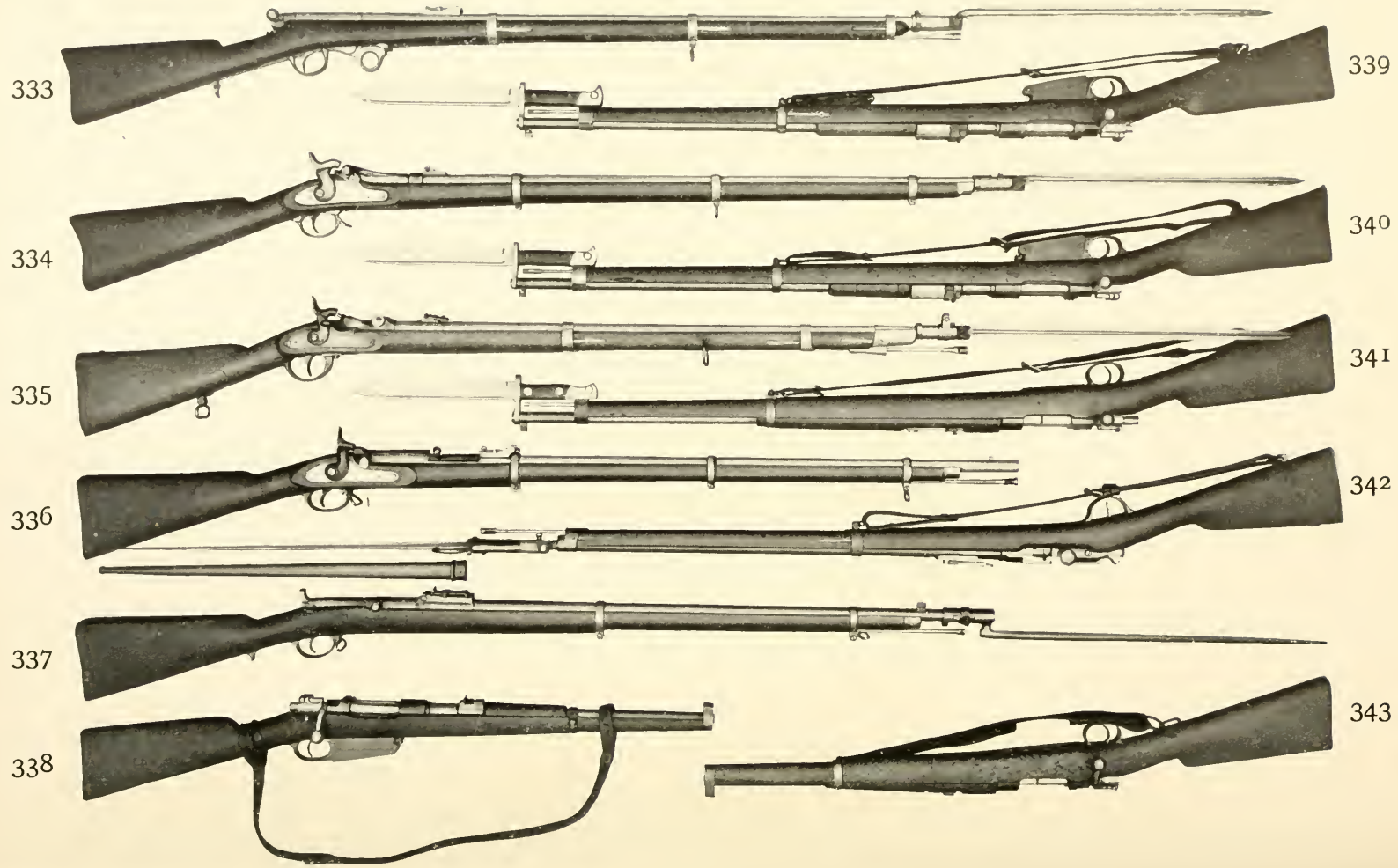
328 Indian Rifle, cal. .52 Percussion. Octagon barrel, maple stock. Patch-box. Marked, "H. E. LEMAN, LANCASTER, PA."

329 Indian Rifle, cal. .54 Percussion. Octagon barrel, maple stock, partly covered with rawhide and full of brass tacks. Patch-box in butt. Marked, "H. E. LEMAN, LANCASTER, PA."

330 Indian Rifle, cal. .52 Percussion. Octagon barrel, maple stock. Brass-mounted. Patch-box. Stock broken, repaired with rawhide, and ornamented with brass tacks. Marked, "H. E. LEMAN, LANCASTER, PA." (A noted rifle-maker in his day.)

331 Indian Rifle, cal. .52 Percussion. Octagon barrel; patch-box; maple stock, broken, and repaired with rawhide. Brass-mounted. Stock much worn, and ornamented with brass tacks. Marked, "G. GOLCHER." Nearly all of the Indian rifles are ornamented with brass-headed tacks. Popular belief is that each tack represented a soldier, settler or white woman killed.

332 Gallager Rifled Carbine, cal. .52 Paper cartridge (linen covered). M. J. Gallager's patent, No. 29,152, July 17th, 1860. Marked, "RICHARDSON & OVERMAN ARMS CO., PHILADELPHIA, PA." Ornamented with brass tacks. Has a piece of rope hanging from trigger-guard. Originally issued to United States Cavalry, and captured by Indians.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Case No. 24.

Breech-loading Rifles used in the Civil War. Mauser Rifles Captured by United States Troops During the War with Spain.

333 "Greene's" Bolt Breech-loading Rifle (with bayonet), cal. .535 Paper cartridge. Hammer underneath barrel. The cartridges had the bullets in the rear, so that there were always two bullets in the gun when loaded, the rear bullet acting as a gas-check. A wind-gauge slide on the rear sight. Barrel has elliptical bore. J. D. Greene's patent, No. 18,634, Nov. 17th, 1857. Marked, "GREENE at MILLBURY, MASS."

334 Model of 1863, United States Rifled Musket (with bayonet), cal. .58 Percussion. Made for United States government by Samuel Colt, Hartford, Conn. Altered to breech-loader by Allin's method. See mention of Allin elsewhere.

335 German Breech-loading Rifle, cal. .54 Has four-edged bayonet. Metallic cartridge. Marked, "LORRIN SHUTZ." Civil War relic, Confederate Army.

336 English "Enfield" Rifled Musket (with bayonet), cal. .577 Altered to breech-loader by Colt Patent Fire-arms Mfg. Co., Hartford, Conn. "Berdan" method. A few used in the Civil War.

337 Berdan Breech-loading Rifle (with bayonet), cal. .50 COLT'S FIRE-ARMS MFG. CO., HARTFORD, CONN., made 30,000 for Russia in 1869.

338 Spanish Mauser Carbine, cal. 7 mm. Five shots. Stamped on the breech, "Mauser Espanol Modelo, 1893. Manufactura Loewe Burlin. No. A 5762." From United States Armory, Springfield, Mass.

339 Spanish Mauser Rifle (with bayonet), cal. 7.65 mm. Five shots. Turkish pattern. Stamped on the breech, "Waffenfbk, Mauser Oberndorf a/n, No. 503." From United States Armory, Springfield, Mass.

340 Spanish Mauser Rifle (with bayonet), cal. 7.65 mm. Five shots. Argentine pattern. Stamped on the breech, "Mauser Modelo Argentine, 1891. Manufactura Loewe Burlin. No. G. 7507." From United States Armory, Springfield, Mass.

341 Spanish Mauser Rifle (with bayonet), cal. 7 mm. Five shots. Spanish pattern. Stamped on the breech, "Mauser Espanol Modelo 1893; Manufactura Loewe Burlin. No. A. 5246." From United States Armory, Springfield, Mass.

342 Model of 1874, French Gras Breech-loading Rifle (with saber bayonet), cal. .45 Stamped on the breech, "Manufacture D. Armes Tulle MLE 1874 No. 48472." Used by the Spaniards in the recent Spanish-American War. From Santiago de Cuba.

343 Spanish Mauser Carbine, cal. 7.65 mm. Five shots. Argentine pattern. Stamped on the breech, "Manufactura Loewe Burlin, 1894, No. 4065." From United States Armory, Springfield, Mass.

CARTRIDGES FOR SMALL ARMS, 1839.

Kind.	Balls.		Charges of Powder.				Remarks.
	Diameter, Inches.	Number in One Pound.	Weight, Grams.	Number in One Pound.	Ratio to Weight of Ball.	Blank Cartridges, Grains.	
Musket	.64	18	130	54	1-3rd	117	Musket Powder
Musketoon	.64	18	85	82	2-9ths	77	
Hall's Carbine { Musket Calibre	.64	18	75	93	1-5th	68	Rifle Powder
Hall's Carbine { Rifle Calibre	.525	32	75	93	1-3rd	68	
Hall's Rifle	.525	32	100	70	4-9ths	90	
Common Rifle	.525	32	100	70		90	
Pistol	.525	32	50	140	2-9ths	45	

DIMENSIONS OF CARTRIDGES, 1840.

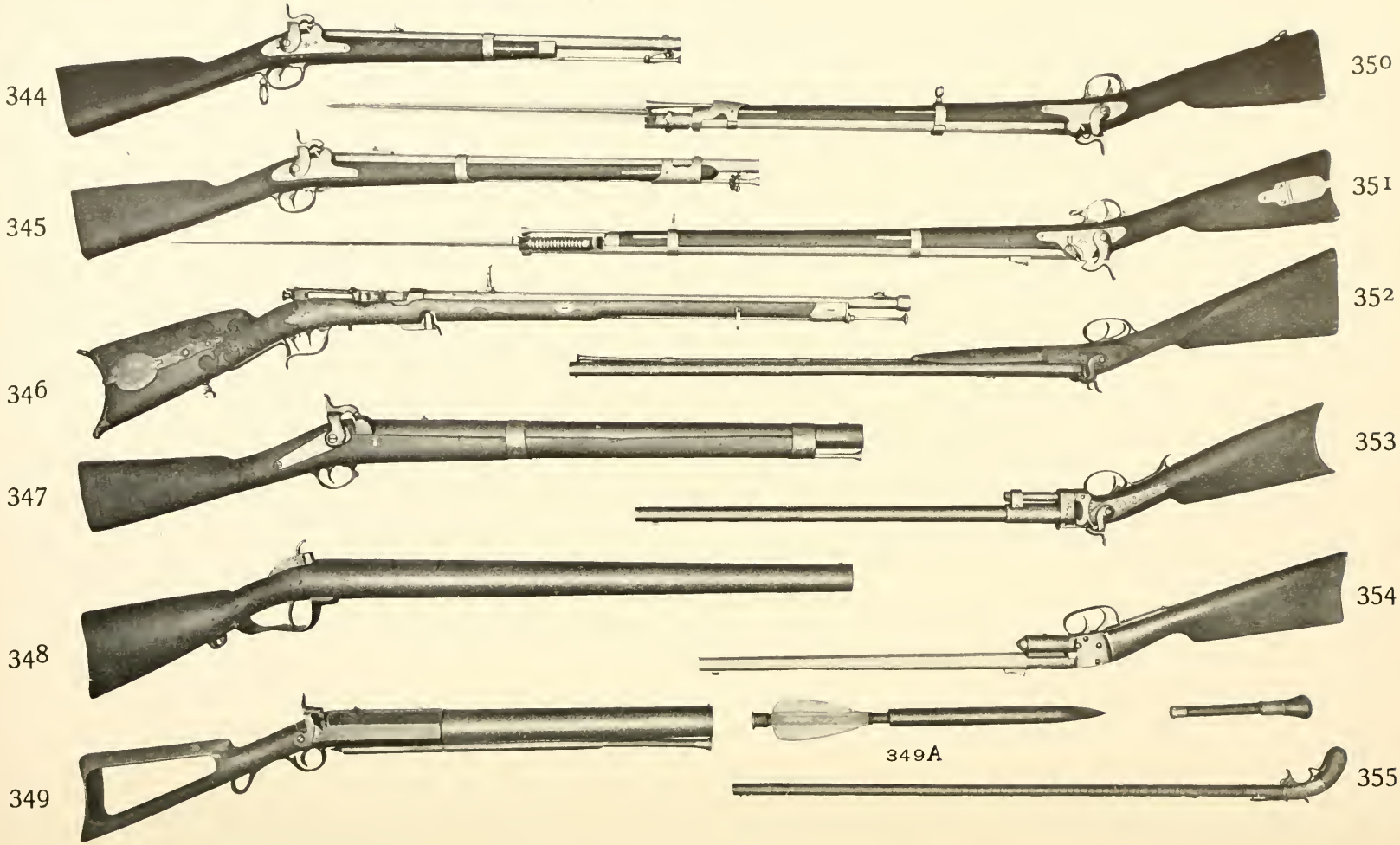
Kind of Cartridge.		Length, Inches.	Kind of Cartridge.		Length, Inches.
Musket	Ball	2.37	Musketoon	Ball	2.
	Buck and Ball	2.55		Ball and Buck	2.18
	Buckshot	2.75		Buckshot	2.43
	Blank	1.83		Blank	1.39
Carbine Musket Calibre	Ball	1.81	Rifle	Ball	2.5
	Buck and Ball	2.		Blank	1.9
	Buckshot	2.31	Pistol	Ball	1.68
	Blank	1.32		Blank	1.12
Carbine Rifle Calibre	Ball	2.1			
	Blank	1.58			

ARMS MADE AND REPAIRED AT THE U. S. ARMORY AT HARPER'S FERRY, VA., FROM ITS ESTABLISHMENT TO THE CLOSE OF THE YEAR 1848.

Year	Pattern Muskets	Pattern Rifles	Pattern Pistols	Wall Pieces	Harpoon Guns	Cannon Locks	Muskets	Rifles	Pistols	Repaired		
										Muskets	Rifles and Carbines	Pistols and Swords
1796												
1797												
1798												
1799												
1800												
1801							293					
1802							1,472					
1803							1,048					
1804	4	4					156	772				
1805							——	1,716				
1806			8				136	1,381				
1807				1			50	146	2,880	5,500		
1808				6			3,051		1,208			
1809							7,348			590		
1810							9,400			691		
1811					4		10,000			1,392		
1812			4				10,200			2,113	531	581
1813	5	4			40		9,000			612	231	
1814							10,400	1,600		548	16	
1815							5,340	1,508		23	2	
1816	5						6,416	2,652				
1817	6					6	8,513	2,726				
1818	8	9					9,892	2,700				
1819	2	2	6				7,020	3,324				
1820							9,856	1,793				
1821							10,320					
1822							10,100					
1823							12,200					
1824							10,557					

Year	Muskets	Year	Muskets	Model Rifles	Model Carbines	Model Percussion Pistols
1825	14,000	1835	10,022			
1826	8,720	1836	9,151			
1827	12,020	1837	8,200			
1828	10,316	1838	12,006			
1829	18,895	1839	5,848			
1830	10,130	1840	8,304			
1831	11,160	1841	8,650			
1832	12,000	1842	*6,576	9	1	2
1833	12,040	1843	3,105			
1834	12,100	1844	608			

*Flint-lock.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Case No. 25.

UNITED STATES MUSKETOONS, AMERICAN WHALING GUNS, ETC.

344 United States Rifled Carbine, cal. .54 Percussion. Stamped on the lock "SPRINGFIELD" "1854," and in front of the hammer an over letters "U. S." Has one band held by a band-spring. Brass tip. Stud under end of barrel; ramrod held to this stud by a swivel. Ring on rear of bow-guard. Small leaf-sight. Iron-mounted.

345 United States Model of 1842, Rifled Cavalry Musketoon, cal. .69 Percussion. Stamped on the lock "1848" "SPRINGFIELD" "U. S." and an . Has ramrod held to a stud on under side of barrel by a brass chain to prevent loss when loading on horseback. Brass-mounted. Long swivel-bar, with ring, extending from rear band to rear screw of side plate. Leaf-sight. Brass sight on front strap of end band.

Note.—A rare arm. Seen in very few collections.

346 German Breech-loading Rifle, cal. .42 Percussion. Paper cartridge. Lock is on under side of barrel. Bolt action. Relic of Franco-Prussian War.

347 "Whaling Gun," cal. .88 Percussion. Brass-mounted. Shoots lances and harpoons. From the old whaling vessel "New England," which sailed from New London, Conn., on many whaling voyages, 1841-1860.

348 Brown Whaling Gun, cal. 1.5 Percussion. Brass barrel and stock. Weight, 36 lbs. Made for Robert Brown, New London, Conn., by Alberston, Douglas & Co., New London, 1845. Formerly owned by Captain Horace Champlin, East Lyme, Conn., who sailed "whaling" out of New London.

349 "Brand" Whaling Gun, cal. 1.25 Percussion. Iron barrel and skeleton stock. Shoots bomb, lance or harpoon. Made by Brand Arms Co., Norwich, Conn., in 1850.

349A Bomb Lance, which explodes after being shot from whaling gun. Belongs to the gun described above.

350 Model of 1842, United States Smooth-bore "Musketoon" (with bayonet), cal. .69 Percussion. Stamped on the lock "1847" "SPRINGFIELD" "U. S." and an . Made at the Springfield Armory in 1847.

Note.—The manufacture of Musketoons was discontinued in 1855.

351 Model of 1855, United States Rifle (with saber bayonet), cal. .58 Percussion. Patch-box. Made at Harper's Ferry Armory in 1860. Civil War relic, Federal Army.

Note.—Patch-box was added to musket of this model in 1859.

352 "Richards'" Double-barrel Rifle and Shot-gun; rifle cal. .35, shot-gun cal. .70 Percussion. Laminated barrels. Marked, "RICHARDS, LONDON, ENGLAND."

353 Lawrence Breech-loading Rifle, cal. .52 Percussion. Paper cartridge. Richard S. Lawrence's patent, No. 8637, Jan. 6th, 1852. Marked, "R. S. LAWRENCE, HARTFORD, CONN."

354 Rowe's Breech-loading Rifled Carbine, cal. .52 Percussion. Paper cartridge. A. H. Rowe's patent, No. 42,227, April 5, 1864. This patent proved to be an infringement of Richard S. Lawrence's patent, No. 8637, Jan. 6th, 1852, and was turned over to Lawrence. Marked, "A. H. ROWE, HARTFORD, CONN., 1864." The barrel rotates to the right. Has two triggers, one for cocking and the other for firing; the hammer is out of sight.

355 Cane Gun, cal. .60 Percussion. Hammer underneath barrel. Brass barrel, leather-covered. Has an extra handle, which screws onto the barrel when used as a cane.

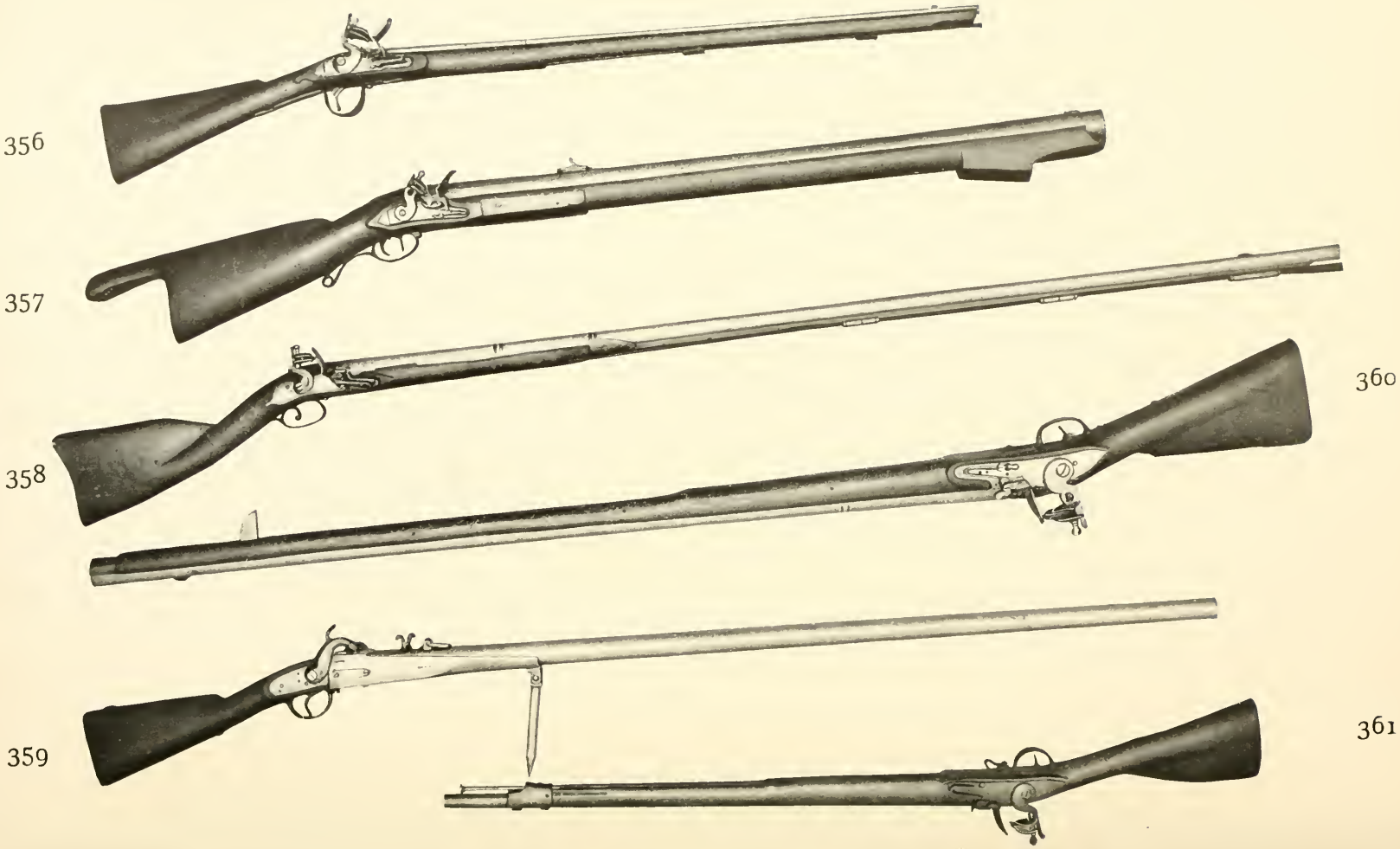
STATEMENT OF ORDNANCE PURCHASED IN EUROPE.

Year.	By Whom.	Article.	From.	Price.
1832	Lieut. Daniel Tyler, by authority of War Dept.	Six Muskets, different models.	France	@ $35.93
		Six Carbines, different models.		@ 28.39
		Three pairs Pistols.		@ 16.40
1840	Ordnance Board.	Four Muskets, different models.	England	121.50
		One Carbine. One Pistol.		18.50
	F. Cotterrell, New York.	Two Swiss Rifles.	Imported from Geneva	55.91

As in 1795, when the French "Charleville" smooth-bore musket—the highest type of its kind—was adopted as the model for the first U. S. musket made in Springfield, so again in 1840, from all of the above arms, the French arm was selected as the best arm, and the models of 1840 and 1842 patterned after it.

ARMS ADOPTED BY FOREIGN COUNTRIES AND IN USE 1898.

Country.	System.*	Cal. in 1-1000.	Cartridges in Magazine.	Length Barrel.	Wt. in lbs.	Type.
Argentina	Mauser, 1891	.301	5	29.1	8.8	Repeater
Austria	Mannlicher, 1888	.315	5	30.1	10.1	"
Belgium	Mauser, 1889	.301	5	30.7	8.8	"
Bulgaria	Mannlicher, 1888	.315	5	30.1	10.1	"
Chili	Mannlicher, 1888	.315	5	30.1	1.01	"
Denmark	Krag-Jorgensen, 1889	.315	5	32.9	9.5	Cut off
England	Lee-Speed, 1891	.303	10	30.2	9.4	"
France	Lebel, 1886	.315	8	31.5	9.4	"
"	Berthier, 1891	.301	4		8.5	Repeater
Germany	Mannlicher, 1888	.311	5	29.1	8.5	"
Holland	Mannlicher, 1892	.256	5	31.1	9.1	"
Italy	Carcano, 1892	.256	5	28.8	8.5	"
Japan	Murato, 1887	.315	8	29.6	9.	Cut off
Norway	Krag-Jorgensen, 1893	.256	5	31.1	8.7	"
Portugal	Kropatschek	.315	8	32.3	10.2	"
Roumania	Mannlicher, 1891	.256	5	28.6	8.7	Repeater
Russia	Mouzin, 1891	.300	5		9.5	"
Spain	Mauser, 1891	.275	5		8.6	Cut off
Switzerland	Schmidt, 1889	.295	12	30.7	10.4	"
Turkey	Krag-Jorgensen, 1893	.300	5	30.	8.7	"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Case No. 26.

FLINT-LOCK FOWLING-PIECES; WALL-PIECES.

356 Flint-lock Fowling-piece, cal. .70 Brass-mounted. Used at New London in 1781.

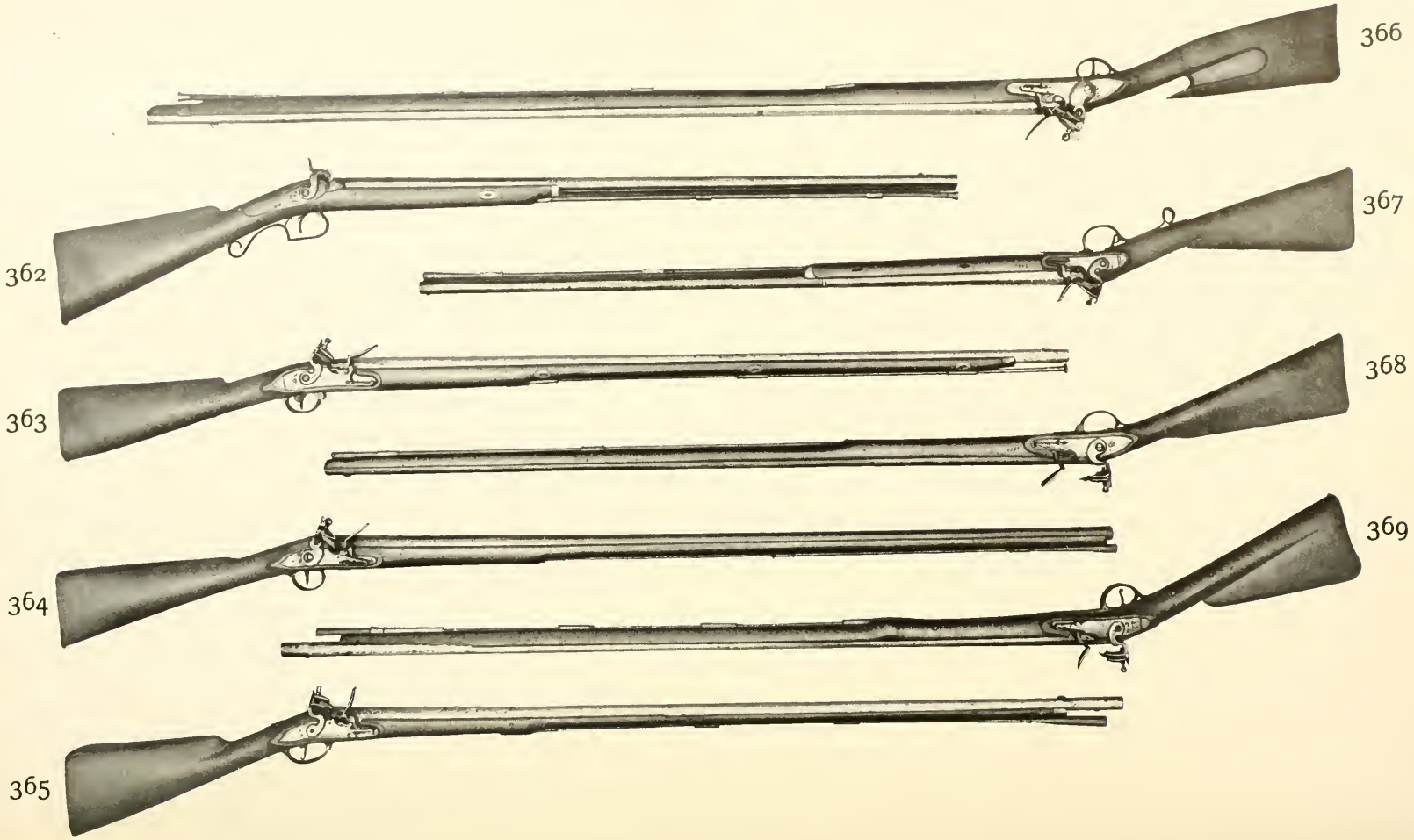
357 German Flint-lock M. L. Rifle, cal. .75 Wall-piece, very heavy. Sights on it for 800, 1200 and 1800 yards. Has hair trigger. Butt of stock cut away to rest it on shoulder when fired. Marked, "CRAUSIN, HERZBURG, GERMANY, 1818."

358 Dutch Flint-lock M. L. Gun, cal. .80 Brass-mounted. Made in Holland in the sixteenth century and brought to this country by some of the first settlers, who settled on North River, near Albany, N. Y.

359 Swivel Breech-loading Gun, cal. 1. Percussion. Paper cartridge. Stamped on the lock, "M. R. de Charleville;" on the barrel, "1832." Made at Liège, Belgium.

360 Dutch Flint-lock Wall-piece, cal. .96 It has a spur on the barrel near the muzzle. This is used for catching it on the outer wall or edge of the porthole to check the recoil when the gun is fired. From an old fort in Amsterdam, Holland.

361 French Charleville Flint-lock, Smooth-bore Musket, cal. .70 Engraved on the end of the lock, in rear of cock, in large letters, "U.S." On the barrel stamped "1763." Nearly twelve inches of the barrel cut off, leaving only two bands. Left side of the butt has the so-called "cheek place," allowing face to lie close to the stock. Fought with in the Revolutionary War by John Mayer, Somerset County, N. J., who was commissioned as commissary Oct. 1st, 1778. This gun and the English "Brown Bess" were the principal arms used by the Americans in the Revolution.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Case No. 27.

FLINT-LOCK FOWLING-PIECES.

362 Percussion Fowling-piece, cal. .69 Brass-mounted. Half-stocked. Rib under the barrel. Marked, "LITTLE & PINKHAM."

363 Flint-lock Fowling-piece, cal. .70 Marked, "I. ADAMS." Stamped on the barrel, "L. H." and "1827." Brass-mounted.

364 Flint-lock Fowling-piece, cal. .70 Brass-mounted. No name on the lock. Was fought with in War of 1812 at Stonington.

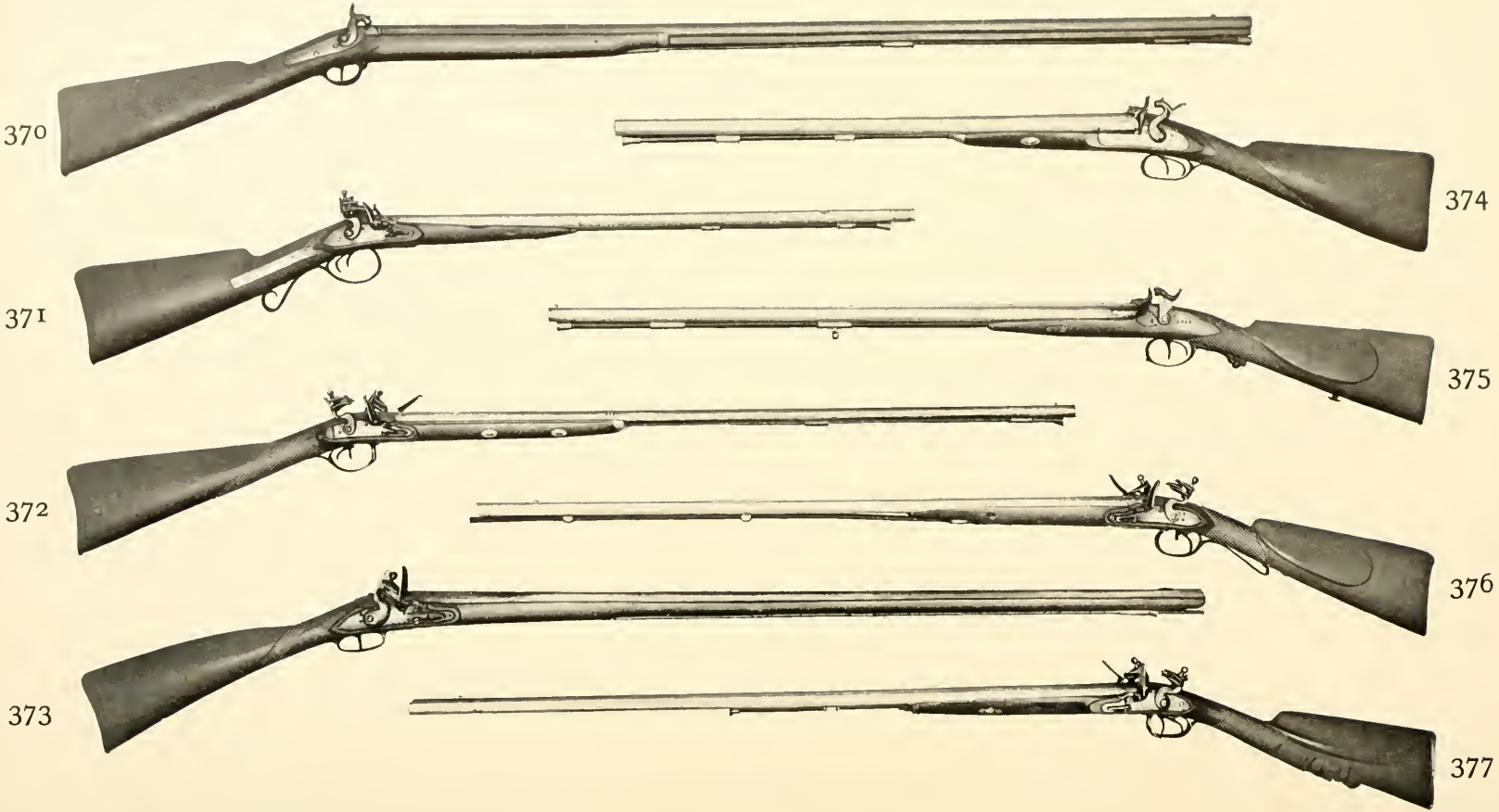
365 Flint-lock Fowling-piece, cal. .70 Engraved on the lock, "1756." Barrel ornamented with brass. Brass-mounted. An elegant arm.

366 Belgian Flint-lock Smooth-bore Musket, cal. .64 Stock painted red. Made at Liège, Belgium, for the Egyptian trade.

367 English Flint-lock Fowling-piece, cal. .70 Marked, "J. T. TARRANT" "LONDON." Brass-mounted.

368 Flint-lock Fowling-piece, cal. .70 Brass-mounted. Used in the Revolutionary War. From Brooklyn, Conn.

369 Flint-lock Fowling-piece, cal. .70 Marked, "A. W. SPIES." Brass-mounted. Model of the Kentucky rifle. Beautiful maple stock.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Case No. 28.

FLINT-LOCK FOWLING-PIECES, SINGLE AND DOUBLE BARREL.

370 Single-barrel, Percussion Fowling-piece, cal. .70 Brass-mounted. One of the first models of the percussion-lock.

371 English Double-barrel, Flint-lock Fowling-piece, cal. .60 Marked, "HARRIS," London. The barrels are finely made and inlaid with gold. Stock has been broken and repaired. Originally a pair of these double-barrel guns belonged to a gentleman in Berwick, England. The mate of this one was presented to the Berwick Museum, England. Very old. From George Hart, Pilgrim Street, Newcastle-upon-Tyne, England.

372 English Double-barrel, Flint-lock Fowling-piece, cal. .60 Stock is inlaid with silver. Silver-mounted. Marked, "KETLAND, LONDON."

373 Single-barrel, Flint-lock Fowling-piece, cal. .70 Engraved on the lock, "R. E. A." Brass-mounted.

374 English Double-barrel Shot-gun, cal. .70 Marked on the barrels, "A. H." Damascus twist. Finely made gun of its day. Formerly owned by Mr. Rufus King, Hartford, Conn.

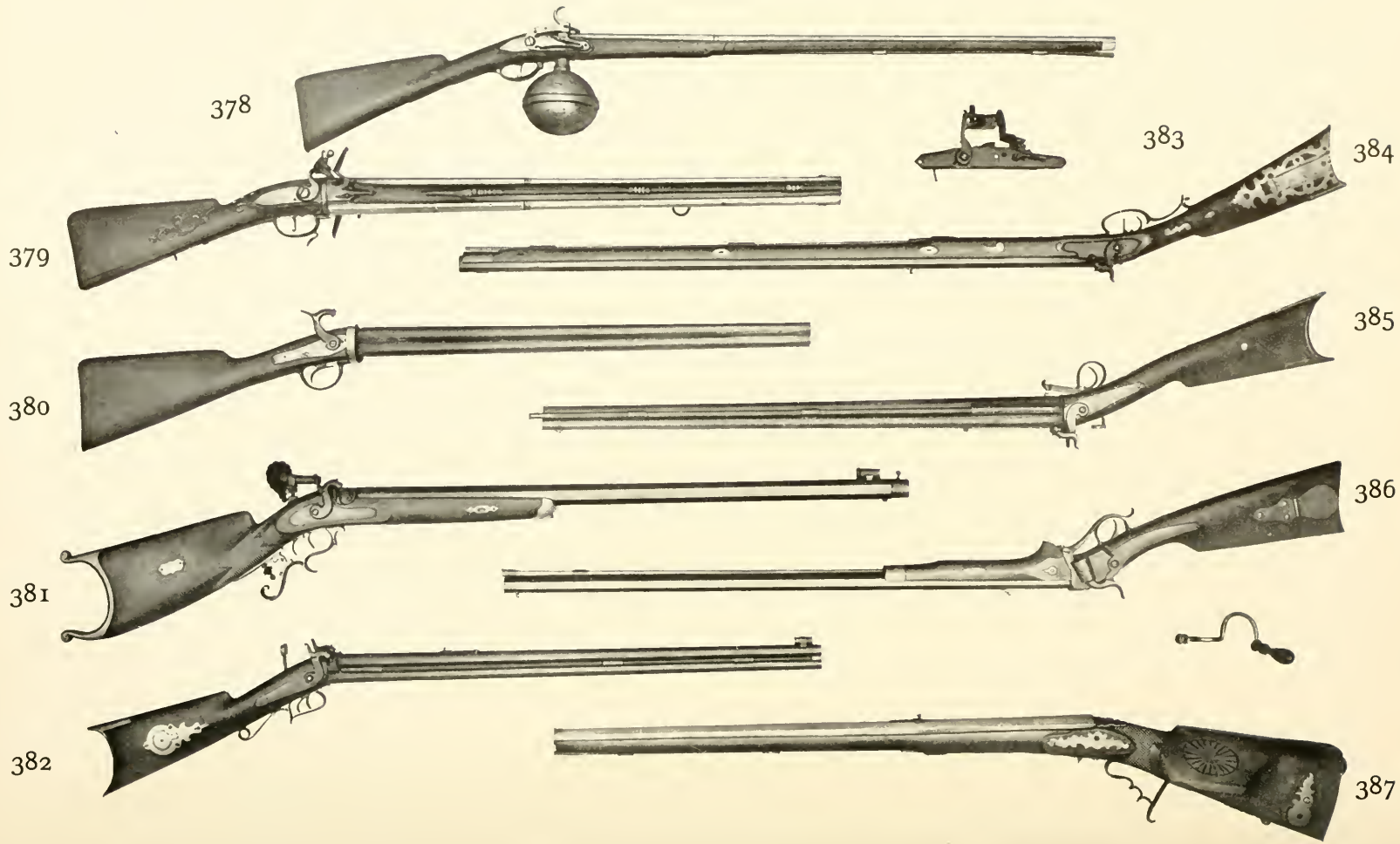
375 Double-barrel Shot-gun, cal. .64 Percussion. Finely engraved. Twist, Damascus. Maker's name, "F. NOWAK," "PRAGUE," in gold letters, inlaid in the top between the barrels. Iron-mounted.

376 English Double-barrel, Flint-lock, Smooth-bore Fowling-piece, cal. .60 Brass-mounted. This gun was purchased in Georgia in 1817 by Mr. Abraham Foot, and remained in his family until purchased of his daughter, Mrs. Vining, in 1893.

377 Belgian Double-barrel, Flint-lock Fowling-piece, cal. .60 Barrels finely engraved. Carved stock. Made in Liège, Belgium.

ARMS SOLD TO STATES BY THE U. S. GOVERNMENT.

Date	To	Number.
May 3, 1808	Georgia	4000
May 16, 1809	Maryland	4000
Feb. 16, 1810	Georgia	4000
Aug. 4, 1810	Maryland	1200
Oct. 1, 1811	Maryland	1200
June 10, 1812	Maryland	1200
Aug. 5, 1812	Delaware	150
Sept. 1, 1812	Delaware	500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Case No. 29.

SITTING BULL'S, JOHN BROWN'S AND OTHER RIFLES.

378 German Air-gun, cal. .45 With iron globe placed below the barrel. Fired by air being compressed into the globe by an air-pump. The air is allowed to escape rapidly when fired. The barrel is inlaid with gold and silver. Carved stock. Marked, "C. G. WERNER, 1752;" a gunmaker in Leipsic, 1750 to 1780.

379 Bavarian Double-barrel, Flint-lock Gun, cal. .60 Sometimes called "Up-and-Down" gun. Iron-mounted. This gun has the barrels revolving on a common axis, parallel with the stock, each barrel having a pan and battery. One lock, having one cock and a single trigger, fires both barrels, which are turned in succession until opposite the cock and in the proper position for firing, in which position they are retained by a small spring bolt, moved by a stud fixed and working upon the fore part of the trigger-bow. The date of its manufacture can be fixed early in the eighteenth century. They were originally from Bavaria. Many of them were used in the Alps.

380 Four-barrel Revolving Shot-gun, cal. .58 Percussion. Revolves by hand. No name or marks.

381 "Klein" Sharpshooter's Rifle, cal. .45 Percussion. Octagon barrel, globe and peep sights. Silver-mounted. Marked, "P. H. KLEIN, NEW YORK," and used by John Haislop, sharpshooter, in the battle of Gettysburg, Pa., July 2d and 3d, 1863.

382 Leonard Double-barrel Rifle and Shot-gun, combined; rifle cal. .35, shot-gun cal. .60 Rifle barrel over the shot barrel; both percussion. Globe and peep sights. Silver-mounted. Mahogany stock. A fine gun. Marked, "A. LEONARD & SONS, SAXONS RIVER, VT."

383 Ancient type of Flint-lock.

384 Sitting Bull's Rifle, cal. .42 Percussion. Octagon barrel. Brass-mounted. Silver patch-box. Stock is decorated with twenty-three pieces of ornamental silver. Engraved on the lock the maker's name, "J. GOLCHER." This rifle was purchased of a trader, who traded a breech-loading rifle for it with Sitting Bull.

Note.—Golcher (sometimes engraved Goulcher) was a famous rifle-maker, and made the finest Indian and "Kentucky" rifles.

385 Three-barrel Gun. Two barrels rifled, cal. .38; one-barrel shot-gun, cal. .70 The two rifle barrels side by side above, with two hammers on top; shot barrel between and underneath, with hammer underneath all three. Percussion.

386 John Brown's Breech-loading Rifle, cal. .38 Percussion. Paper cartridge. Octagon barrel. Beautifully polished, black walnut stock, with fancy patch-box. No maker's name or number on the rifle to show who made it, or where it was made. This rifle was made expressly for John Brown, who did not care to have any maker's name on it. Brown carried it on his Kansas campaign. It was afterwards presented to Charles Blair of Collinsville, Conn. Brown called at his home on the third day of June, 1859, and presented him with this rifle. Made by Maynard Gun Co., Chicopee Falls, Mass., 1856.

387 Sixteenth Century German Air-gun, cal. .38 The barrel is lined with brass. In the stock at the butt is a bellows, with machinery arranged to compress the air; operated with a crank or key. One of the earliest air-guns made. The manufacture of these guns was forbidden. The first improvement in this gun was an air-pump for compressing the air, in the seventeenth century.

COMPARATIVE EXPENSE OF MANUFACTURING A MUSKET.

IN 1817.

Cost at Springfield Armory	$13.56
Cost at Harper's Ferry Armory	14.25
Average cost,	$13.90
Contract price,	14.00

IN 1821.

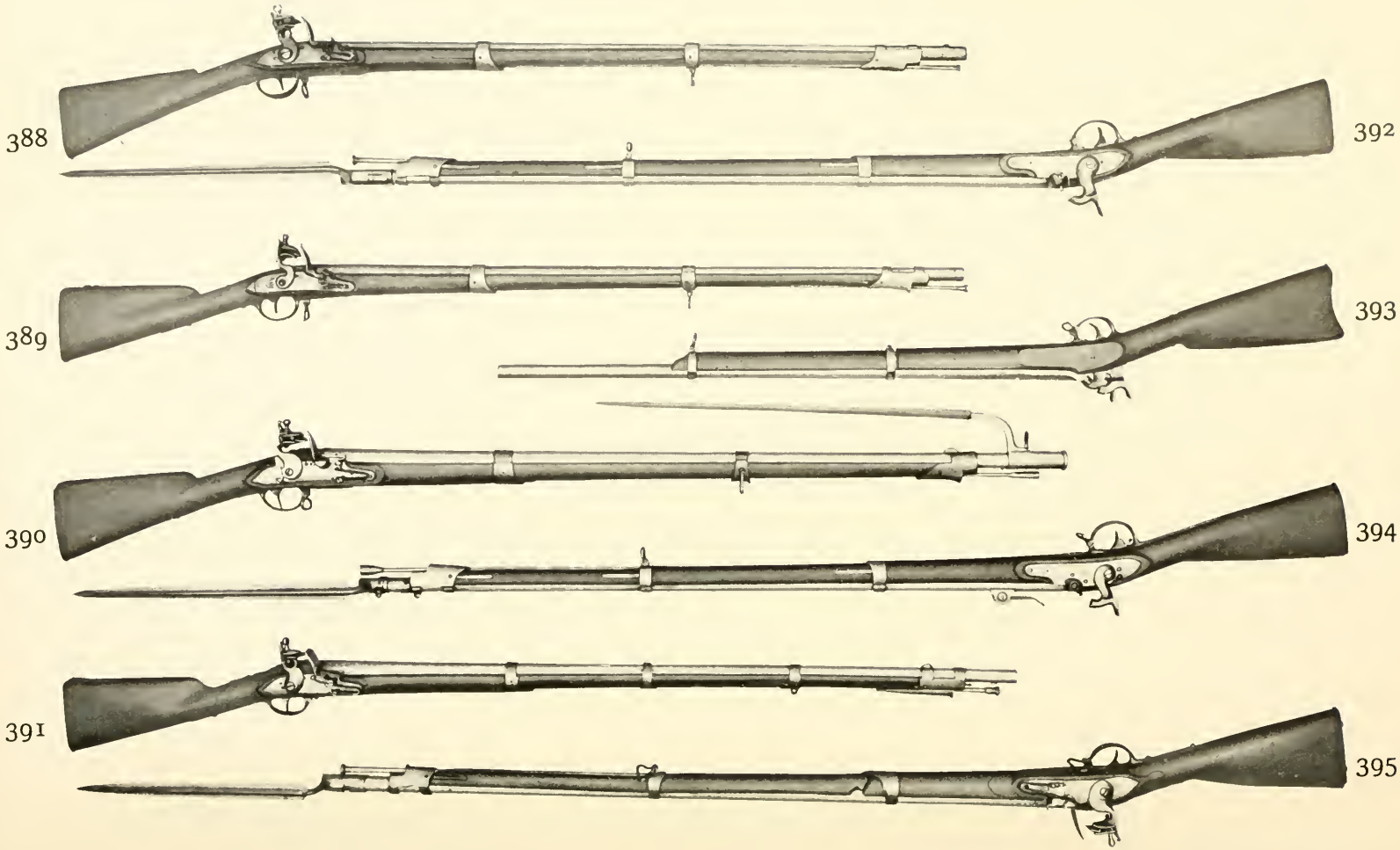
Cost at Springfield Armory	$12.06
Cost at Harper's Ferry Armory	12.97
Average cost,	$12.51
Difference, 1817 and 1821,	1.39
Average cost estimated for 1822	$12.00
Contract price to be	12.00

SYSTEMS USED BY FOREIGN COUNTRIES IN 1880.

The table following shows what countries had adopted the various breech-loading systems in 1880.

It is noticeable that when a foreign country overcame national prejudice and adopted a system not their own, it was invariably one of American invention:

System.	Country.	Description of Breech System.
Albini	Belgium	Block pivoted at rear, at right angle to axis of chamber, and opening upwards and forwards.
Beaumont	Holland	Block sliding backward in receiver, on a plane with axis of chamber.
Berdan	Russia	
Carcano	Italy	Transformed bolt gun.
Chassepot Dreyse Mauser	France Prussia Prussia	Block sliding backward in receiver, on a plane with axis of chamber.
Peabody—Martini and Martini—Henry	Great Britain Turkey Roumania	Block pivoted at rear, at right angle to axis of chamber, and falling forward within receiver.
Remington	Spain Holland Egypt Denmark Sweden, Norway S. Am. Republic China	Block rotating upon axis at right angles to axis of chamber and opening backward.
Springfield	United States	Block pivoted at front, at right angle to axis of chamber, and thrown upward and forward.
Werner	Bavaria	Block pivoted upon center, at right angle to axis of chamber, and falling forward.
Werndl	Austria	Block rotating upon axis parallel to axis of chamber.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Case No. 30.

FOREIGN FLINT-LOCK GUNS, ETC.

388 Model of 1763, French Flint-lock, Smooth-bore Musket, cal. .75 Engraved in script on the lock, "Manufure De Charleville." In 1795 this musket, the highest type of its kind in Europe, was selected as the model for the first arms made by the government at the Springfield Armory. This specimen was fought with by Paul Davidson of Hebron, Conn., in the Revolution.

389 Flint-lock, Smooth-bore Musket, cal. .69 Three brass bands, and brass-mounted. Stamped on the lock is the maker's name, "E. W. SPIES."

390 Austrian Flint-lock Musket, cal. .75 Has long, heavy bayonet. On the lock is a safety-catch in rear of hammer.

391 Dutch Flint-lock Musket, cal. .70 Has four brass bands, and is brass-mounted. Made by TOME, Amsterdam, Holland. Engraved on plate, "W.L.I. FUND."

392 Model of 1822, United States Smooth-bore Musket. Flint-lock, altered to Percussion. Made for the United States government by W. L. Evans, VALLEY FORGE. On the stock is cut "H. A. SHAW, 79th."

393 Lindsay's Repeating Rifle, cal. .58 Percussion. Two locks, two hammers, one trigger and one barrel. Bullet of first cartridge acts as a breech for the second cartridge. Proved a failure. Only a few made at Springfield Armory in 1860. Civil War relic used in Confederate Army.

394 Minié Musket (with bayonet), cal. .69 Made at the Springfield Armory (1842). Altered to percussion in 1854.

395 German Flint-lock Musket (with bayonet), cal. .70 Three brass bands, and brass-mounted. Heavy, square-shaped butt-plate.

In 1841-42 the number of private armories in the country employed by contract was seven.

E. Pomeroy, Pittsfield, Mass.,	manufacturing	yearly	1200	muskets.
E. Whitney, Whitneyville, Conn.,	"	"	1500	"
N. Starr, Middletown, "	"	"	1200	rifles.
H. Derringer, Philadelphia, Penn.,	"	"	1200	"
A. Waters, Millbury, Mass.,	"	"	3000	pistols.
R. Johnson, Middletown, Conn.,	"	"	3000	"
S. North, Middletown, "	"	"	2000	Hall's carbines.
Total small arms,			13,100	

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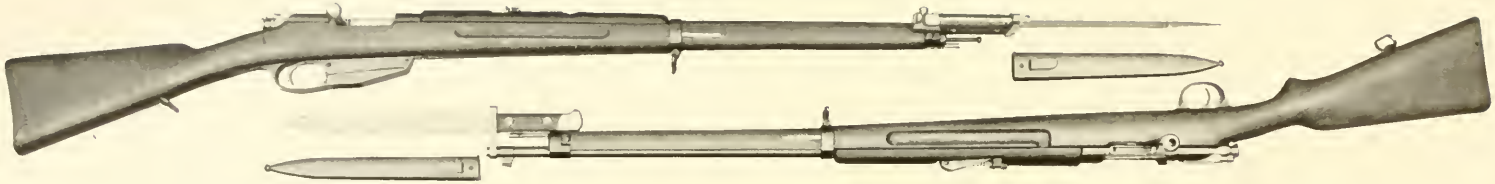

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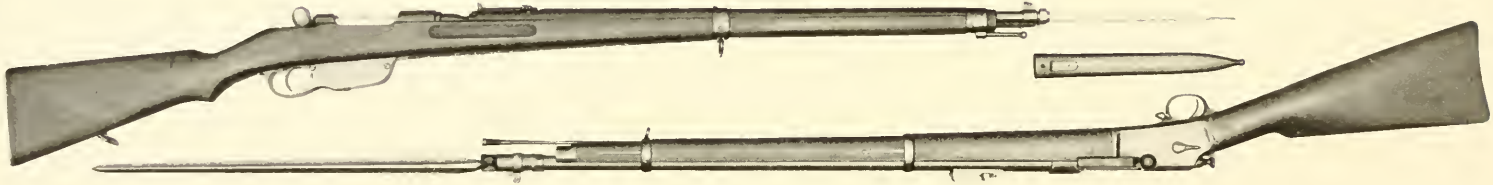

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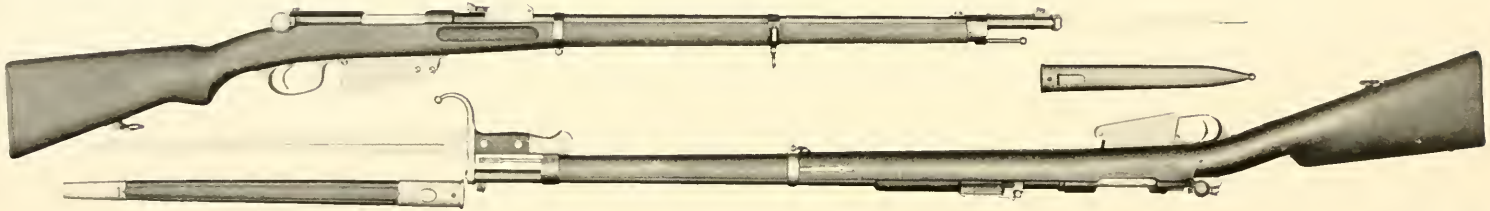

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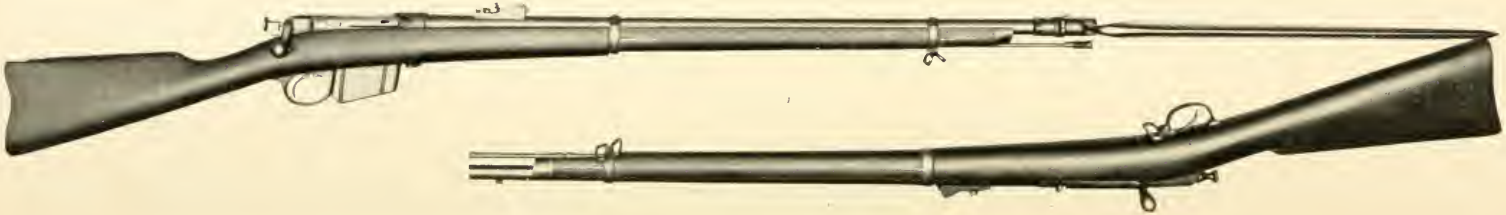

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Case No. 31.

Modern United States Guns. Modern Magazine Guns Used in Foreign Countries.

396 Model of 1893, Mannlicher (with knife bayonet), cal. 6.5 mm. (.256 inches.) Roumania. Like the German gun, has a magazine with a sliding and turning bolt. The follower is simply a lever with no swinging leaf, and the magazine has no cut-off.

397 Model of 1895, Mannlicher Rifle (with knife bayonet), cal. 8. mm. (.315 inches.) Austria. A magazine gun. The bolt is operated by a simple forward and back motion of the hand. Magazine is under the receiver. To fill it the bolt is drawn back. Cartridges can not be inserted one at a time into the magazine.

398 Model of 1890, Mannlicher Rifle (with knife bayonet), cal. 8. mm. (.315 inches.) Germany. A magazine gun. The follower is simply a lever with no swinging leaf, and the magazine has no cut-off. The bolt differs but little from the bolt of the old Mauser system. The head of the bolt does not turn.

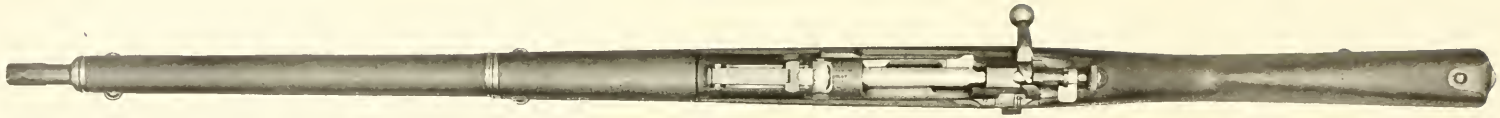
399 Model of 1890, Lee Magazine Rifle (with knife bayonet), cal. .45 A bolt gun, with an opening the length of a cartridge in the bottom of the receiver, just in rear of the barrel. Has detachable magazine inserted from below. Has cut-off, and can be fired as a single loader.

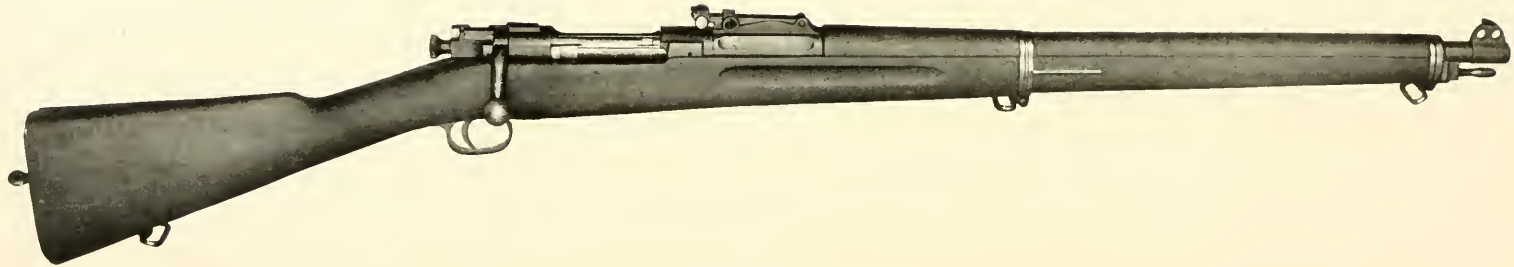
400 Model of 1890, Mannlicher-Schonauer Rifle (with knife bayonet), cal. 6.5 mm. (.256 inches.) Portugal. A magazine gun, similar to the arm adopted by Roumania. Has a strip-off clip, using rimless cartridges, the magazine being flush with stock.

401 Model of 1883, Winchester (with bayonet), cal. .45 A repeater having three motions (as a single-loader has four). Fired by a center lock, the firing pin passing through the bolt. The magazine is charged through a hole in the side of the stock. Depressing the lever draws back the bolt and cocks the gun.

402 Model of 1890, Mauser (with saber bayonet), cal. 7.65 mm. (.301 inches.) Turkey. A bolt-gun, having magazine fixed under receiver, filled by passing cartridges through the receiver from loading-clip. Follower is practically of the Mannlicher type.

403 United States Model of 1873, Breech-loading Rifled Musket, cal. .45 In 1872 this arm, known as "Springfield, No. 99," was selected from among over one hundred systems, tested to obtain a new breech-loading arm. This arm is similar to Model of 1870 in appearance. The caliber is reduced from .50 to .45 Barrel is steel instead of iron, as in early models. With numerous changes this arm continued in use until 1892, when the modified "Krag" was adopted and the caliber reduced to .30

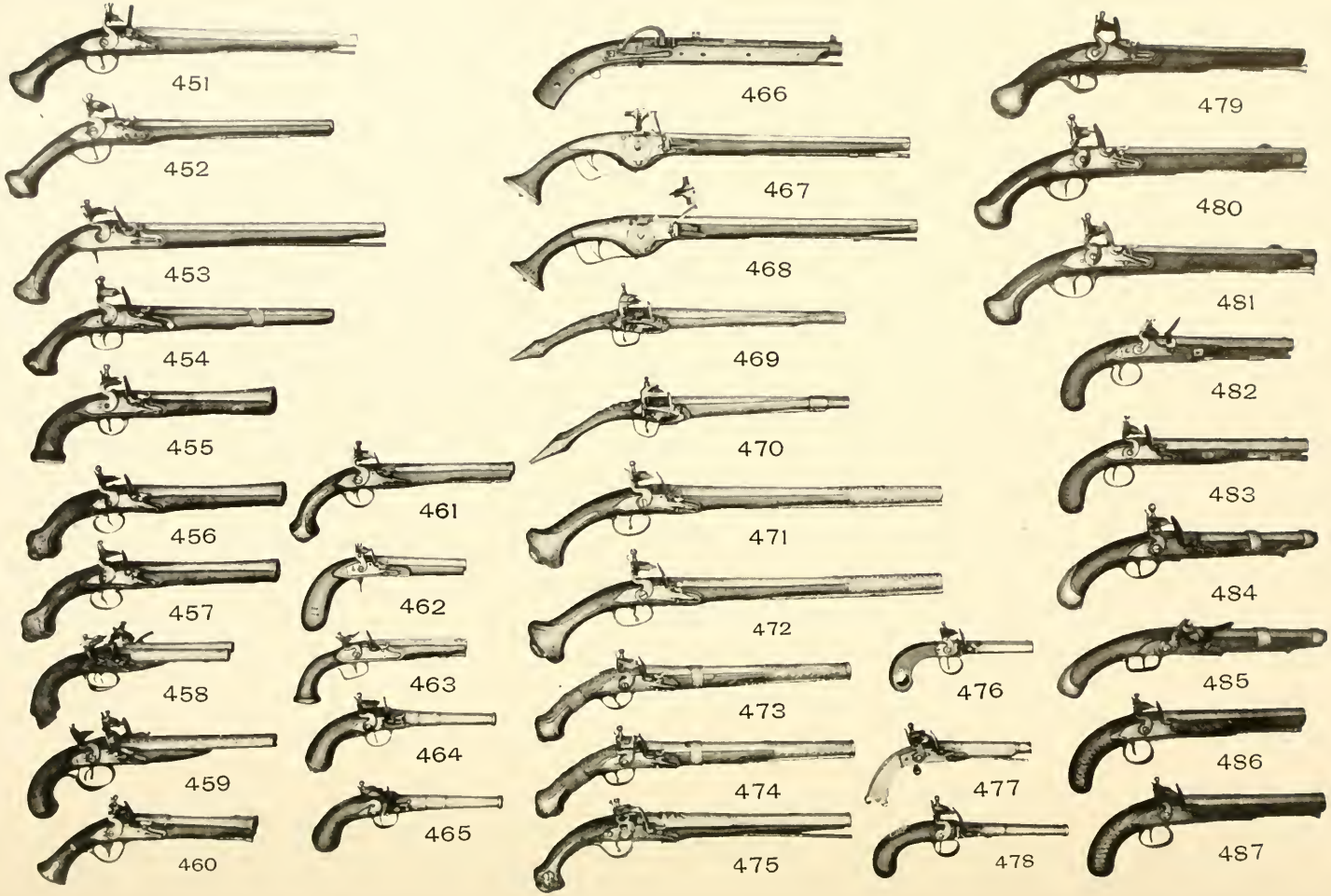




U. S. MODEL OF 1903.

U. S. Model of 1903.

Magazine Rifle, cal. .30 This arm, to be issued to all government troops, differs in many ways from all models heretofore fabricated. The entire barrel is encased in wood, the front sight excepted. There are 90 component parts to the gun (Model of 1795 had about 35). Compared with the old flint-lock musket, which, in the hands of a "well-disciplined" soldier, could be fired three times a minute, this new rifle has been fired 23 times a minute as a single-loader (aimed shots), and 25 times a minute (aimed shots) as a magazine arm; without aiming, 27 shots as a single-loader, and 35 using magazine fire, a minute. When used as a magazine gun, it is loaded with "clips," which hold five cartridges each. The operating parts are the Bolt Mechanism and Magazine Mechanism. The bolt moves backward and forward and rotates in the well of the receiver, carries a cartridge either from the magazine, or one placed by hand in front of it, into the chamber and supports its head when fired. Pushing the bolt forward after charging the magazine ejects the "clip," which may be noticed when in position is vertical. A "cut-off" having a thumb-piece, which when turned down shows "OFF," converts the gun into a single-shooter. When turned up, the word "ON" indicates the arm is ready to be loaded from the magazine. Has front and rear sights, and rod bayonet. Upper band has stacking swivel; is held by a screw. Lower band, having swivel held by a band spring. Butt swivel plate and swivel. The bolt in this gun may be removed in a second, and thrown away, rendering the arm unserviceable. Total length of gun 43.43 inches. Weight, 8.937 pounds.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Case No. 40.

MATCH-LOCK, WHEEL-LOCK, SNAPHAUNCE-LOCK AND FLINT-LOCK PISTOLS.

451 Seventeenth Century, Moorish Flint-lock Pistol, cal. .70 Barrel slightly bell muzzle. Brass-mounted.

452 Seventeenth Century, Turkish Flint-lock Pistol, cal. .60 Iron-mounted. A rare old piece. From Constantinople.

453 French Flint-lock Horse Pistol, cal. .70 Trigger-guard bow gone. Brass-mounted. Wood ramrod. Marked, "LE PAGE MOUTIER, PARIS," a celebrated gunmaker, about 1665 to 1685, during the reign of Louis XIV.

454 Seventeenth Century, Turkish Flint-lock Pistol, cal. .50 Lock inlaid with gold. Silver bands, and silver crescent on the butt of stock. From Diarbekir, Turkey.

455 Seventeenth Century, Flint-lock Bell-muzzle Pistol, cal. 1¼ inches. Half octagon barrel. Lock and barrel finely inlaid with gold. From Erzeroum, Turkey, on river Euphrates, about 700 miles east of Constantinople, and formerly belonged to a chief or "bey."

456 } Pair Seventeenth Century, Flint-lock Bell-muzzle Pistols, cal. 1¼
457 } inches. Barrels inlaid with gold. Silver-mounted. Carved stock. From Kemach, Asiatic Turkey.

458 Double-barrel Flint-lock Pistol, cal. .60 Carved mahogany stock, the butt representing a head. Very old and rare.

459 English Double-barrel, Flint-lock Pistol, cal. .54 Marked, "TWIGGS, LONDON." A rare specimen.

460 Russian Flint-lock Pistol, cal. at the muzzle 1½ x 1 inch; so-called "oval bore." Brass-mounted. Initial of maker's name inlaid in gold; also a crown stamped on the barrel. Very old; rare arm. Purchased in Moscow, Russia.

461 Seventeenth Century, Turkish Flint-lock Pistol, cal. .50 Barrel and stock inlaid with silver. From Constantinople.

462 Flint-lock Pistol, cal. .42 Made by Armstrong, Philadelphia, Pa.

463 Foreign Flint-lock Pistol, cal. .42 Brass-mounted. Mahogany stock. Engraved on the lock "A. ANSBACH." Inlaid with gold in the top of barrel, "I. M. HAMAN."

464 } Pair Eighteenth Century, English Flint-lock Pistols, cal. .50 Can-
465 } non-shaped barrels. Silver-mounted. Made in London, Eng.

466 Sixteenth Century, Japanese Match-lock Pistol, cal. .75 Bronze barrel inlaid with gold. Ebony stock, beautifully silver-mounted. A very choice specimen. From Japan.

467 } Pair Seventeenth Century Wheel-lock Pistols, cal. .50 Iron-
468 } mounted. A rare pair, showing the first improvement in fire-arms after the match-lock. First used about 1540. From Athens, Greece. No. 468 shows the arm cocked.

469 } Pair Sixteenth Century Snaphaunce-lock Pistols, cal. .60 Pecu-
470 } liarly shaped stocks, covered with ornamental brass, and finely inlaid with silver. From Constantinople.

471 } Pair Turkish Flint-lock Pistols, cal. .70 Large size. Silver bands,
472 } otherwise iron-mounted. Very finely engraved. On the barrels is inlaid in gold "CONVNIO." From Constantinople.

473 } Pair Seventeenth Century, Turkish Flint-lock Pistols, cal. .60
474 } Solid silver-mounted. From Diarbekir, Turkey.

475 Seventeenth Century, Turkish Flint-lock Pistol, cal. .50 Brass barrel and butt-plate finely embossed. Brass lock-plate. Side-plate embossed with coat-of-arms. Stock inlaid with silver star, crescent, etc. From Harpoot, south of Erzeroum, on the river Euphrates, Turkey.

476 English Flint-lock Pistol, cal. .50 Octagon barrel. Marked, "W. MILLS, LONDON."

477 Flint-lock Pistol, cal. .50 All steel. Finely engraved. To the cock has been brazed the head of a percussion hammer, which fires a cap placed on a cone, or nipple, which has been brazed into the top of the barrel. Pistol is both Flint-lock and Percussion.

Note.—This pistol, seen only in a few collections, is known as the "Highlander," a class which is all by itself. This weapon, no doubt, evolved from the German steel "dag." Many "Highlanders" were to be found in European armies. The earliest specimens, seen only in the largest collections in foreign countries, are all steel, as is the one here exhibited. Three patterns were made. The first made has a heart-shaped butt and "snaphaunce" lock. Later the butt was fashioned claw-shape (see illustration), having a flint-lock. The latest of these pistols has a round butt.

478 Seventeenth Century Flint-lock Pistol, cal. .60 Silver-mounted. Very old. From Madagascar.

479 English Flint-lock Horse Pistol, cal. .60 Has an arm called a "belt-hook" on the stock opposite the lock. Brass-mounted. Engr[illegible] on the lock, "TOWER" in rear of cock; and under the [illegible], the letters GR, and the [illegible].

480 } Pair English Flint-lock Dragoon Pistols, cal. .70 Large, heavy
481 } arms, brass-mounted.

482 English Flint-lock Horse Pistol, cal. .60 Octagon barrel, safety-slide on cock. Iron-mounted. Carved stock. Engraved on the lock, "SOUTHALL;" on the barrel, "LONDON."

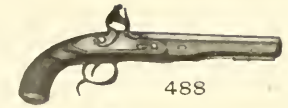
483 English Flint-lock Horse Pistol, cal. .64 Octagon barrel. Iron-mounted. Carved stock. Marked, "JOVER, LONDON."

484 } Pair English, Heavy Flint-lock Horse Pistols, cal. .60 Heavy.
485 } Brass-mounted. From London.

486 } Pair English Flint-lock Horse Pistols, cal. .60 Brass-mounted.
487 } Carved mahogany stocks. Engraved on the locks, "SMITH."

A table showing the diameters, in thousandths of an inch, of gun-barrels and of the leaden balls corresponding to the several gauge numbers.

Gauge No.	Diameter of the bore in thousandths of an inch or the calibre.	Diameter of the bullet in thousandths.	Weight of lead ball in grains.	Gauge No.	Diameter of the bore in thousandths of an inch or the calibre.	Diameter of the bullet in thousandths.	Weight of lead ball in grains.
5	.988	.983	1,400	21	.632	.627	$333\frac{1}{3}$
6	.929	.924	$1,166\frac{2}{3}$	22	.627	.622	$318\frac{2}{11}$
7	.889	.884	1,000	23	.615	.610	$304\frac{8}{23}$
8	.848	.843	875	24	.582	.577	$291\frac{2}{3}$
9	.809	.804	$777\frac{7}{9}$	25	.579	.574	280
10	.791	.786	700	26	.569	.564	$269\frac{3}{13}$
11	.767	.762	$636\frac{4}{11}$	27	.565	.560	$269\frac{7}{27}$
12	.752	.747	$583\frac{1}{3}$	28	.562	.557	250
13	.739	.734	$583\frac{6}{13}$	29	.559	.554	$241\frac{11}{29}$
14	.718	.713	500	30	.551	.546	$233\frac{1}{3}$
15	.708	.703	$466\frac{2}{3}$	31	.537	.532	$225\frac{25}{31}$
16	.666	.661	$437\frac{1}{2}$	32	.529	.524	$218\frac{3}{4}$
17	.659	.654	$411\frac{13}{17}$	40	.498	.493	175
18	.654	.649	$388\frac{8}{9}$	48	.463	.458	$145\frac{5}{6}$
19	.648	.643	$368\frac{8}{19}$	50	.456	.451	140
20	.635	.630	355	64	.421	.416	$109\frac{3}{8}$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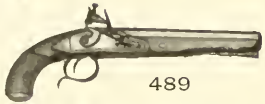
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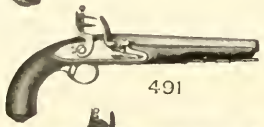
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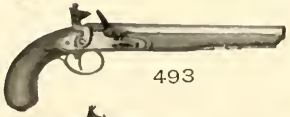
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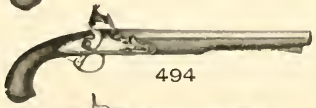
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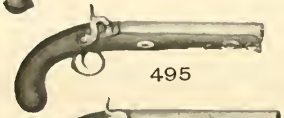
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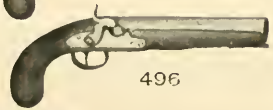
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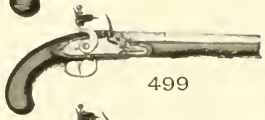
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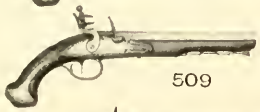
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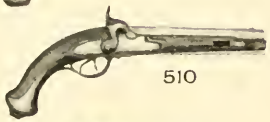
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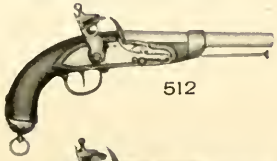
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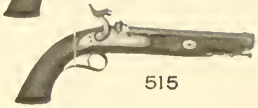
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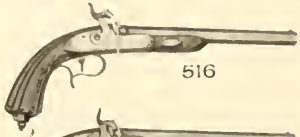
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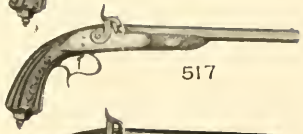
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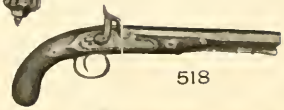
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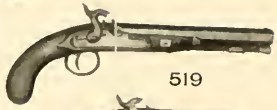
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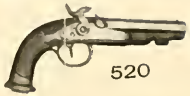
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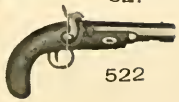
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Case No. 41.

Flint-lock Pistols.

490 } Pair English Flint-lock Horse Pistols, cal. .56 Brass barrels,
491 } brass-mounted. The original lock of one has been replaced by one made by "Goulcher." Marked, "KETLAND & CO., LONDON." Formerly owned by Col. William H. Maxwell of the English Army in 1789.

492 English Flint-lock Horse Pistol, cal. .56 Brass barrel and mounted. Engraved on lock, "RICHARDS." Fought with in the Revolutionary War by Timothy Mather, Windsor, Conn.

493 "Sharpe" Flint-lock Horse Pistol, cal. .58 Brass barrel and mounted. Stamped on the barrel, "EXTRA SHARPE PROOF"; on the lock, "SHARPE."

494 Seventeenth Century, Flint-lock Horse Pistol, cal. .50 Brass barrel, stamped "BRISTOL." Engraved on the lock, "GABBITAS."

495 English Horse Pistol, cal. .60 Percussion. Brass barrel and mounted. Marked, "HOPKINS, LONDON, ENGLAND." From battle-field of Chester Station, Va., May 10th, 1864.

496 English Horse Pistol, cal. .70 Flint-lock altered to Percussion. Brass barrel and mounted. Marked, "KETLAND, ENG." Formerly owned by Col. William H. Maxwell, English Army, 1789.

497 } Pair English Flint-lock Horse Pistols, cal. .64 Round barrels.
498 } Brass-mounted. Marked, "KETLAND & CO., LONDON."

499 } Pair English Flint-lock Horse Pistols, cal. .60 Half octagon bar-
500 } rels. Iron-mounted. Marked, "W. KETLAND & CO., LONDON."

501 English Flint-lock Horse Pistol, cal. .64 Octagon barrel. Iron-mounted. Marked, "JOSH KEELEY, LONDON."

502 English Flint-lock Horse Pistol, cal. .50 Brass-mounted. Marked, "KETLAND & CO., LONDON."

503 German Flint-lock Horse Pistol, cal. .50 Brass-mounted.

504 Belgian Flint-lock Pistol, cal. .75 Half octagon barrel. Brass-mounted. Very old. Proof-mark ⑤.

505 "Derringer" Pistol, cal. .38 Percussion. Finely engraved. Octagon barrel. German-silver mounted. Marked, "DERRINGER, PHILADELPHIA, PA." From the battle-field of Cold Harbor, Va., June 1st, 1864.

510 French Double-barrel Horse Pistol, cal. .50 Percussion. One barrel over the other (superposed). Found on the battle-field of New Market Road, Va., Oct. 7th, 1864.

511 German Pistol, cal. .50 Percussion, with a safety-guard. Brass-mounted. From the battle-field of Chester Station, Va., May 10th, 1864.

512, 513 Pair Belgian Flint-lock Pistols, cal. .70 Brass-mounted. Stamped on the butt-plate, "Co. G. 1863." Made at Liège, Belgium, Proof-marked (E/LG). Used in the Confederate Army during the Civil War. From Richmond, Va.

514, 515 Pair English Dueling Pistols, cal. .66 Percussion. Swivel ramrods. Carved mahogany stocks. Marked, "FIELD, TOWER HILL, LONDON."

516, 517 Pair Dueling Pistols, cal. .50 Percussion. Rifled. Octagon barrels. Locks and mountings beautifully inlaid with gold. Carved stocks.

518, 519 Pair Rifled Dueling Pistols, cal. .56 Percussion. Octagon barrels. Stamped on the locks, "DUPE." From Petersburg, Va.

520 German Pistol, cal. .45 Percussion. From battle-field of Deep Bottom, Va., Aug. 14th, 1864.

521 English Rifled Dueling Pistol, cal. .50 Percussion. Iron-mounted. Finely engraved, with safety-slide. Marked, "J. PURDY, OXFORD STREET, LONDON, ENGLAND."

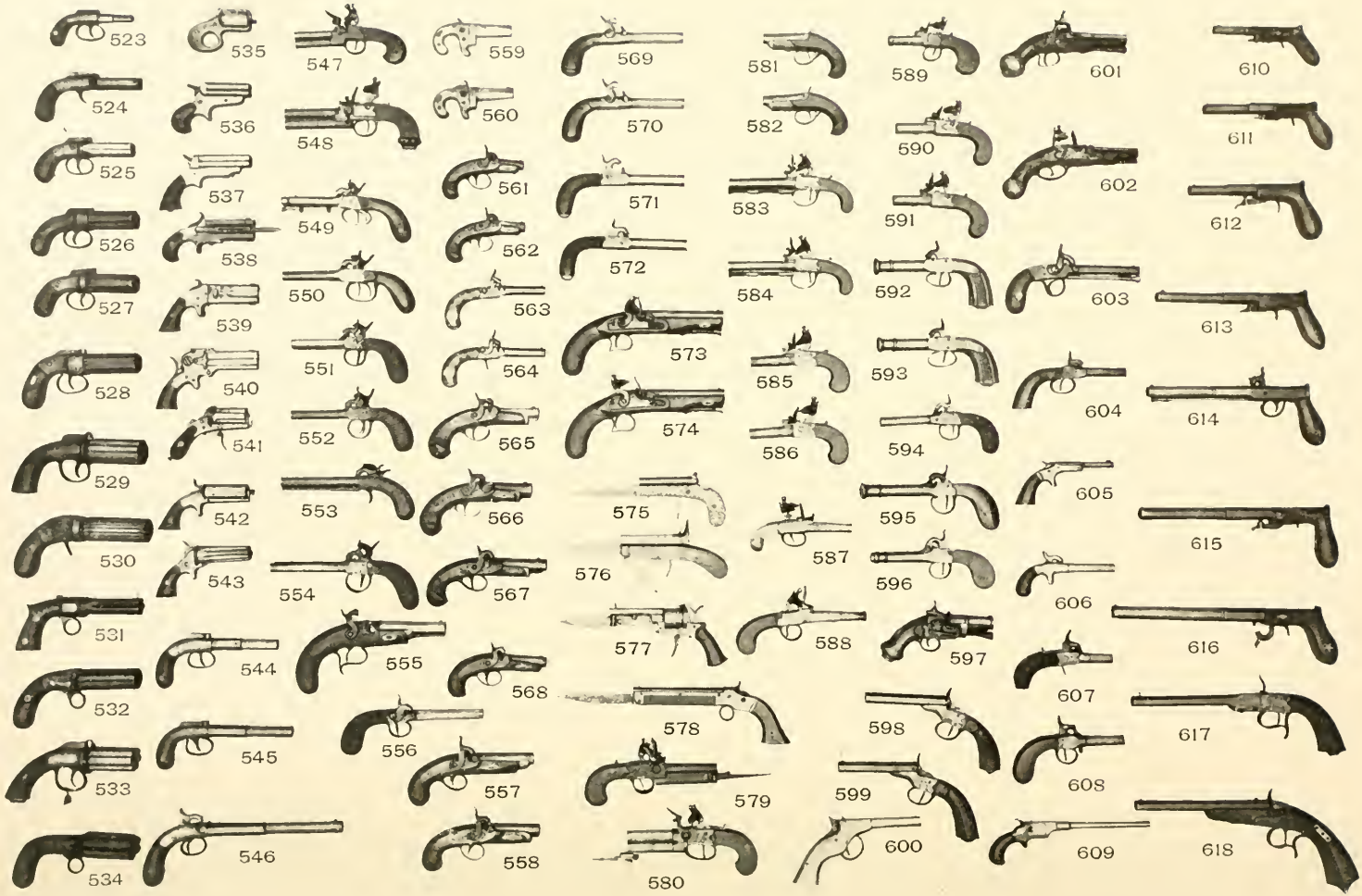
522 German Pistol, cal. .50 Percussion. From battle-field near Fort Wagner, S. C., July 11th, 1863.

The "Allen."

This famous pistol, known as the "Pepper Box," a favorite weapon with the forty-niners, and the only gun Mark Twain had with him when treed by the buffalo, was first manufactured by Ethan Allen, a pioneer in the fire-arms industry. Born in Bellingham, Mass., in 1810, he first manufactured fire-arms in 1832 at North Grafton, Mass. (The Lambert Cane Gun invented by Dr. Lambert of Upton, Mass.) In 1834 Allen made the saw-handle target rifled pistol, and invented the self-cocking, or double-action, revolver. About this time he took in as partners his brothers-in-law, Charles T. Thurber and Thomas P. Wheelock, and the name of the firm became Allen, Thurber & Co. In the fall of 1842 they moved to Norwich, Conn. Remaining there until 1847, they again moved to Worcester, Mass. In 1857 Mr. Thurber retired and the firm name was changed to Allen & Wheelock. Mr. Wheelock died in 1863. In 1865 Messrs. H. C. Wadsworth and Sullivan Forehand, sons-in-law, were admitted into the firm, and the name changed to Ethan Allen & Co. Under this name the business continued until 1873, when, Mr. Allen having died in 1871, the name was again changed to Forehand & Wadsworth. In 1883 Mr. Wadsworth retired. The name remained unchanged, however, until November, 1890, when the firm became incorporated as the Forehand Arms Co.

In 1852 Frederick Allen, Andrew J. Brown and John Luther were manufacturers of musket and rifle barrels in Worcester. The business soon passed into the hands of Mr. Luther. Mr. Paul Allen, formerly in the employ of E. Allen, was superintendent of Luther's factory. Employed among others were Horace Smith and D. B. Wesson, expert workmen, also Alexander Stocking, who later made the single-action Pepper Box, having the hammer with a projection for cocking. Luther fitted up a private room for Smith & Wesson, and Smith invented a repeating rifle.

Ethan Allen invented and built the first set of machinery in the world for manufacturing metallic cartridges. This branch was carried on extensively by him from 1860 to 1872, when it was sold to Gen. Benj. F. Butler, of Civil War fame, President of the United States Cartridge Co. at that time.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Case No. 42.

Revolving Pistols (Pepper Boxes), Single, Double, Three and Four Barrel Pistols; "Knife Pistols;" Brass-barrel Pistols, Etc.

523 "Allen" Single-barrel Pistol, cal. .31 Percussion. Double-action (self-cocking). Ethan Allen's patent, No. 3998, April 16th, 1845. Marked, "ALLEN, THURBER & CO., WORCESTER, MASS." (1847-1856.)

524 Three-shot Revolving Pistol (Pepper Box), cal. .31 Percussion. Double-action (self-cocking). Marked, "MANHATTAN F. A. MFG. CO., NEW YORK."

525 Four-shot Revolving Pistol (Pepper Box), cal. .31 Percussion. Double-action. E. Allen's patent, No. 3998, April 16th, 1845. Marked, "ALLEN & WHEELOCK, NORWICH, CONN." (1845.)

526 Five-shot Revolving Pistol (Pepper Box), cal. .38 Percussion. Double-action. E. Allen's patent, No. 3998, April 16th, 1845. Marked, "ALLEN, THURBER & CO., WORCESTER, MASS."

527 Five-shot Revolving Pistol (Pepper Box), cal. .31 Percussion. Double-action. E. Allen's patent, No. 3998, April 16th, 1845. Marked, "ALLEN & WHEELOCK, WORCESTER, MASS."

528 Six-shot Revolving Pistol (Pepper Box), cal. .31 Percussion. Double-action. E. Allen's patent, No. 3998, April 16th, 1845. Marked, "ALLEN & WHEELOCK, WORCESTER, MASS."

529 Eight-shot Revolving Pistol (Pepper Box), cal. .38 Percussion. Double-action. Revolves to the left. English manufacture. From the battle-field of Fort Wagner, S. C., July 11th, 1863.

530 Ten-shot Revolving Pistol (Pepper Box), cal. .31 Percussion. Double-action. Hammer inside. From the battle-field of Deep Bottom, Va., Aug. 14th, 1864.

531 Five-shot Pistol (Pepper Box), cal. .28 Percussion. Finely engraved. Double-action. Ring trigger. Breaks down to cap. Revolving hammer inside. G. Leonard, Jr.'s, patent, No. 6723, Sept. 18th, 1849. Marked, "ROBBINS & LAWRENCE, WINDSOR, VT."

532 Six-shot Revolving Pistol (Pepper Box), cal. .31 Percussion. Double-action. Hammer inside. From the battle-field of Bermuda Hundred, Va., May, 1865.

533 Six-shot Revolving Pistol (Pepper Box), cal. .38 Percussion. Double-action. From Charleston, S. C.

534 Six-barrel Revolving Pistol (Pepper Box), cal. .38 Percussion. Six separate barrels brazed together. Double-action. Hammer inside. Revolves to the left. Made by Laport Irmaos, Rio de Janeiro. Stamped on the grip, "MARIETTE BREVETTE."

535 Six-shot Breech-loading Revolving Pistol (Pepper Box), cal. .22 Metallic cartridge, rim fire. "Knuckle" revolver; also called "Knuckle duster." J. Reed's patent, No. 51,752, Dec. 26th, 1865. Heavy brass frame, engraved "My Friend."

536 Four-shot Pistol (Pepper Box), "Sharps' Celebrated Four-shooter," a Four-barrel, Breech-loading Pistol, cal. .32 Metallic cartridge (short or long), rim fire. 3½-inch steel barrel, well rifled and sighted. Rosewood handles. Case-hardened frame. C. Sharps' patent, No. 22,753, Jan. 25th, 1859. Marked, "SHARPS' ARMS CO., PHILADELPHIA, PA."

537 Four-shot Pistol (Pepper Box), as described above. Larger size.

538 Wesson Double-barrel Pistol, cal. .38 Metallic cartridge, rim fire. Barrels superposed. Dirk-knife in the center. F. Wesson's patent, No. 92,918, July 20th, 1869. Marked, "F. WESSON, WORCESTER, MASS."

539 Wheeler Double-barrel Pistol, cals. .22 and .32 Metallic cartridges, rim fire. Superposed barrels, turning half round to fire. Henry F. Wheeler's patent, No. 55,752, June 19th, 1866. Marked, "AMERICAN ARMS CO., BOSTON, MASS."

540 Marston Three-barrel Pistol. Barrels one over the other, called "Up-and-down" Pistol, cal. .38 Metallic cartridge, rim fire Has an indicator showing which barrels have been fired. W. W. Marston's patent, No. 17,386, May 26th, 1857; improved 1864. Marked, "WILLIAM W. MARSTON, NEW YORK."

541 Lafaucheux Six-shot Revolving Pistol (Pepper Box), cal. .22 Metallic cartridge, pin fire; double action. Marked, "LAFAUCHEUX ARMS CO., PARIS."

542 Six-shot Revolving Pistol (Pepper Box), cal. .22 Metallic cartridge, rim fire. Marked, "BACON ARMS CO., NORWICH, CONN."

543 Eight-shot Revolving Pistol (Pepper Box), cal. .22 Metallic cartridge, rim fire. J. Rupertus' patent, No. 43,606, July 19th, 1864. Marked, "RUPERTUS PATENT PISTOL MFG. CO., PHILADELPHIA, PA."

544 Percussion Pistol, cal. .36 Half octagon barrel. Flat-top hammer. Marked, "MANHATTAN FIRE-ARMS CO., NEW YORK."

545 Percussion Pistol, cal. .38 Half octagon barrel. Flat-top hammer. Marked, "WASHINGTON ARMS CO." From the battle-field of James Island, S. C., July 16th, 1863.

546 Percussion Pistol, cal. .36 Half octagon barrel, extra long. Marked, "ALLEN & THURBER, NORTH GRAFTON, MASS." (1837-1842.) From the battle-field of Winchester, Va., June, 1863.

547 Double-barrel Flint-lock Pistol, cal. .42 Brass barrels, one over the other (superposed). Revolving pan, turning one-quarter round to prime second barrel.

548 Double-barrel Flint-lock Pistol, cal. .45 Superposed barrels. Pans turn one-quarter round to prime second barrel.

549 Double-barrel Pistol, cal. .38 Percussion. From the battle-field of Cold Harbor, Va., June, 1864.

550 Double-barrel Pistol, cal. .38 Percussion, in fine order. From battle-field of Seven Pines, near Richmond, Va.

551 Double-barrel Pistol, cal. .38 Percussion. Picked up on the battle-field of Petersburg, Va., 1865.

552 Double-barrel Pistol, cal. .38 Percussion. Carved stock. Found on the battle-field of James Island, S. C., June 14th, 1862.

553 Double-barrel Pistol, cal. .38 Percussion. It has but one trigger, shoots one or both barrels at the same time. Found on the battle-field at Chester Station, Va., May 10, 1864.

554 Double-barrel Pistol, cal. .38 Percussion. From battle-field of Gaines' Mills, Va., June, 1862.

555 "New Orleans" Pistol, cal. .50 Percussion. Stamped on the barrel, "New Orleans." From battle-field of James Island, S. C., June 11th, 1862.

556 Single-barrel Percussion Pistol, cal. .50 Engraved octagon barrel. From the battle-field of New Market Road, Va., Sept. 29th, 1864.

557 "Grabb" Pistol, cal. .36 Percussion. Marked, "J. C. GRABB." From the battle-field of Cedar Creek, Va., Oct. 9th, 1864.

558 "Derringer" Pistol, cal. .41 Percussion. Silver-mounted. Marked, "DERRINGER, PHILADELPHIA, PA."

559 } Pair Moore's Pistols (erroneously called "Derringer's), cal. .32
560 } Metallic cartridge. D. Moore's patent, No. 31,473, Feb. 19th, 1861. Marked, "MOORE FIRE-ARMS CO., BROOKLYN, N. Y."

561 } Pair Derringer Pistols, cal. .38 Percussion; silver-mounted.
562 } Marked, "HENRY DERRINGER, PHILADELPHIA," for "A. J. PLATE, SAN FRANCISCO, CAL.," engraved on the frame.

563 } Pair Cooper's Pistols, cal. .42 Rifled; percussion; silver-mounted;
564 } stocks ornamented with silver; stamped, "J. COOPER."

565 "Derringer" Pistol, cal. .44 Percussion; silver-mounted. Marked, "DERRINGER, PHILADELPHIA, PA."

566 "Derringer" Pistol, cal. .52 Percussion. Marked, "DERRINGER, PHILADELPHIA, PA." From the battle-field of New Market, Va., May 15th, 1864.

567 "Derringer" Pistol, cal. .42 Percussion. Marked, "DERRINGER, PHILADELPHIA, PA." From the battle-field of Front Royal, Va., Sept. 21st, 1864.

568 "Derringer" Pistol, cal. .38 Percussion. Marked, "DERRINGER, PHILADELPHIA, PA." From the battle-field of Winchester, Va., Aug. 16, 1864.

569 } Pair Dueling Pistols, cal. .50 Percussion. Laminated rifle barrels,
570 } silver-mounted; mahogany stocks; finely engraved frame.

571 } Pair Sharpe Pocket Pistols, cal. .38 Percussion, rifled. Marked,
572 } "SHARPE, LONDON."

573 } Pair English Flint-lock Pistols, cal. .50 Octagon barrels; carved
574 } mahogany stocks; safety-catch on hammers. Engraved on the locks, "W. EDWARDS;" on the barrels, "DEVONPORT."

575 Belgian "Double-barrel" Pistol, cal. .32 Percussion. Handle silver-plated. Known as "Knife Pistol," having a knife-blade, which opens.

576 Knife Pistol, cal. .22 Metallic cartridge. Shell handle; has two blades. Marked, "UNWIN & ROGERS, SHEFFIELD, ENG."

577 Lafaucheux Revolver, cal. .32 Six shots. Metallic cartridge, rim fire; double action; with dagger. Marked, "LAFAUCHEUX ARMS CO., PARIS." From battle-field of Charles City Road, Va., 1864.

578 Dirk-knife Pistol, cal. .22 Percussion. Double action; blade 4½ inches long. Silver-plated mountings. From battle-field of Fredericksburg, Va., Dec. 13, 1863.

579 Double-barrel Flint-lock Pistol, cal. .50 Superposed barrels with dagger, released by a spring. From Moscow.

580 Double-barrel Flint-lock Pistol, cal. .50 Superposed barrels with dagger, released by a spring. "Dagger Pistol." Pan turns one-quarter round to prime second barrel. Coat-of-arms stamped on frame.

581 } Pair Williamson Percussion Pistols, cal. .38 Metallic cartridge,
582 } silver-plated. David Williamson's patent, No. 58,525, Oct. 2d, 1866. Marked, "D. WILLIAMSON, NEW YORK."

Note.—These pistols are not "Derringers." They require different ammunition and load at the breech. Resembling the Derringer, which is a muzzle-loading pistol and similar in shape and size, has misled collectors.

583 } Pair Flint-lock Pistols, cal. 45 Finely engraved; mahogany stocks.
584 } Marked, "D. EGG, LONDON," gunmaker to His Royal Highnesses the Prince of Wales, the Duke of York, etc.

585 } Pair English Flint-lock Pistols, cal. .50 Concealed triggers; iron
586 } barrels, 2¼ inches long; safety-catch rear of hammer; mahogany stocks. Engraved on the lock, "KNUBLEY, LONDON."

587 English Flint-lock Pistol, cal. .38 Half octagon barrel; engraved iron stock. Made in London.

588 English Flint-lock Pistol, cal. .45 Cannon-shaped barrel; stock inlaid with silver. Marked, "E. NORTH, LONDON, ENG."

589 Foreign Flint-lock Pistol, cal. 38 Brass, bell-muzzle barrel.

590 } Pair English Flint-lock Pistols, cal. .50 Brass barrels, 2¼ inches
591 } long; slide (safety) on the top rear of hammer; mahogany stocks. Marked, "P. BOND, 45 CORNHILL, LONDON, 1785."

592 } Pair English Bell-muzzle Pistols, cal. 1. Percussion. Brass bar-
593 } rels; embossed hammers (lions' heads), carved stocks. Marked, "BOND & CO., LONDON."

594 Pistol, cal. .38 Percussion. Brass barrel. From Petersburg, Va.

595 Pistol, Bell-muzzle, cal. 1. Percussion. Brass barrel; mahogany stock. From battle-field of Fredericksburg, Md., December, 1862.

596 Pistol, Bell-muzzle, cal. .50 Percussion. Brass barrel. From battle-field of Chester Court House, S. C., February, 1865.

597 Oriental Flint-lock Pistol, cal. .65 Brass barrel, three inches long; brass mounted; carved stock, with four medallions set in the mountings. On the barrel is engraved 1611. From Constantinople.

598 French Pistol, cal. 32 Metallic cartridge; carved stock. From Charleston, S. C.

599 French Pistol, cal. 22 Metallic cartridge, rim fire; carved stock. From Charleston, S. C.

600 Pistol, cal. .22 Metallic cartridge. All iron. From Petersburg, Va.

601 Oriental "Snaphaunce" Pistol, cal. .54 Brass mounted; heavy butt-plate; finely engraved. Very fine arm.

Note.—The "Snaphaunce" followed the Wheel-lock, preceding the Flint-lock.

602 English Flint-lock Pistol, cal. .60 Barrel inlaid with gold; brass mounted, carved stock.

603 German Pistol, cal. .28 Percussion. Finely engraved. From battle-field of Peach Tree Creek, Ga., July 20th, 1864.

604 Pistol, cal. .36 Percussion. Found on the battle-field of Deep Run, Va., August, 1864.

605 Single-barrel Pistol, cal. .22 Metallic cartridge.

606 Hopkins & Allen Pistol, cal. .32 Marked, "HOPKINS & ALLEN, NORWICH, CONN."

607 Parker Single-barrel Pistol, cal. .36 Percussion, with safety-catch; finely engraved. Marked, "PARKER, LONDON." From battle-field of New Market Road, Va., October 7th, 1864.

608 Pistol, cal. .44 Percussion. From battle-field of James Island, S. C., June 14th, 1862.

609 Kingsley Rifled Pistol, cal. .22 Made by Henry B. Kingsley in Colt's Armory, "HARTFORD, CONN., 1865."

610 Quinnebaug Rifle Co. Pistol, cal. .42 Percussion. Hammer under the barrel. Marked, "QUINNEBAUG RIFLE CO., SOUTHBRIDGE, MASS., E. HUTCHINSON, AGENT, BALTIMORE, MD." From Alexandria, Va.

611 Andrus & Osborn Pistol, cal. .31 Percussion. Hammer under the barrel. Marked, "ANDRUS & OSBORN, CANTON, CONN." From Fort Wagner, S. C., July 11th, 1863.

612 "Ashton" Pistol, cal. .31 Percussion. Hammer under the barrel. Marked, "P. H. ASHTON."

613 "Jenison" Pistol, cal. .31 Percussion. Hammer underneath the barrel. Marked, "J. JENISON & CO., SOUTHBRIDGE, MASS." Found on the battle-field, Chapin's Farm, Va., Sept. 29th, 1864.

614 "Fowler" Percussion Pistol, cal. .38 Half octagon iron barrel, six inches long. Stamped, "B. FOWLER, JR., No. 646." Presented by Mr. C. A. Fowler, Hartford, Ct., 1888. Made by his father, who manufactured pistols in the Connecticut State Prison, 1835-8.

615 "Confederate" Pistol, cal. .36 Percussion. Half octagon barrel, eight inches long; hammer underneath the barrel. Marked, "S. SUTHERLAND, RICHMOND, VA." Presented by

Mr. George W. Bryant, Farmington, Conn., Feb. 29th, 1888. Mr. Bryant belonged to Co. D, 1st Conn. Cav., under General Custer, and captured this pistol from a Confederate during the Wilson raid in 1864.

616 Quinnebaug Rifled Pistol, cal. .36 Percussion. Hammer under the barrel; nine-inch barrel. Marked, "QUINNEBAUG RIFLE CO., SOUTHBRIDGE, MASS." This pistol was picked up after the battle of Antietam, Sept. 17, 1862, by J. S. Owens, Sharpsburg, Md.

617 French Breech-loading Pistol, cal. .32 Octagon barrel; carved stock; peculiar construction. From battle-field of Sailor's Creek, Va., April 6th, 1865.

618 French Breech-loading Pistol, cal. .50 Metallic cartridge. Octagon barrel; iron-mounted; carved mahogany stock. From Fort Fisher, N. C., January, 1865.

PAPER AND METALLIC AMMUNITION.

Paper cartridges, also called "combustible envelope cartridges," were made for Colt's, Remington's, Whitney's, Bacon's, and all other revolvers using caps.

No. 31, or Cal. .31.....Pocket size
No. 36, or Cal. .36.....Navy size
No. 44, or Cal. .44.....Army size
No. 52, or Cal. .52.....Sharps Rifle size
No. 58, or Cal. .58.....''Springfield'' Rifle size
No. 69, or Cal. .69.....U. S. Musket size

Note.—A paper cartridge, .38 cal., was also made for a Remington Navy Revolver.

METALLIC CARTRIDGES.

No. 1, or Cal. .22
No. 30, or Cal. .30
No. 2, or Cal. .32
No. 3, or Cal. .38
No. 41, or Cal. .41.....for so-called "Derringer" Pistols
No. 44, or Cal. .44.....for Henry and other Rifles
No. 56, or Cal. .56.....for Spencer and other Rifles
Lafaucheux Pin Cartridges, Nos. 7, 9 and 12

Balls made of lead were numbered by weight, i.e.: No. 32 took 32 to weigh a pound. Other numbers were 45, 65, 90, 140, 190, 225, followed in size by No. 3 Buckshot, Turkey or Duck, BB, 1, 4, 7 and 10.

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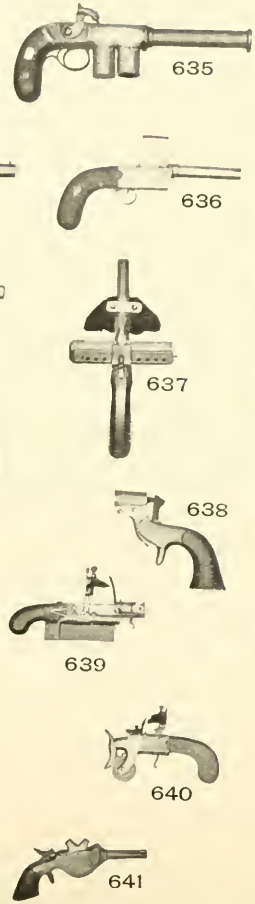
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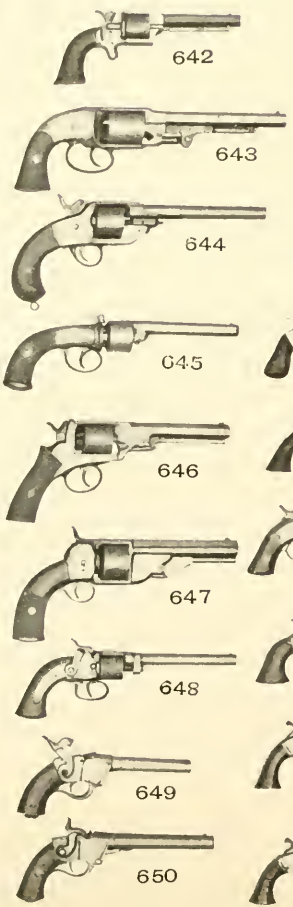
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Case No. 43.

Pin-fire Revolvers, Magazine Pistols, Odd Pieces, Primer-lock Pistols, Etc.

619 Revolver, cal. .32 Double action; six shots, pin fire; metallic cartridge; finely engraved. From the battle-field of Petersburg, Va., September, 1864.

620 "Lafaucheux" Revolver, cal. .35 Six shots, metallic cartridge, pin-fire; double action. Marked, "LAFAUCHEUX ARMS CO., PARIS." Civil War relic.

621 "Lafaucheux" Navy Revolver, cal. .38 Six shots, metallic cartridge, pin-fire; double action. Marked, "LAFAUCHEUX ARMS CO., PARIS." Relic of Civil War.

622 Lafaucheux Army Revolver, cal. .42 Six shots, metallic cartridge, pin-fire; double action. Marked, "LAFAUCHEUX ARMS CO., PARIS, FRANCE." Civil War relic.

Note.—Thousands were purchased by United States government during Civil War.

623 Lafaucheux Revolver, cal. .38 Six shots, metallic cartridge, pin-fire; double action. Marked, "LAFAUCHEUX ARMS CO., PARIS."

624 French Pin-fire Revolver, cal. .38 Ten shots. From the Philippines. A relic of the late war.

625 "Le Mat" Revolver (French Navy pattern), cal. .42 Percussion. Nine shots. Barrel in the center fires a buckshot, cal. .66 The extremity of the hammer is made with a joint, so that it may be turned forward to fire the chambers, or turned down to fire the central barrel. Marked, "Col. Le Mat, Paris." Made for Slidell & Beauregard, Charleston, S. C., for Confederate States of America. A rare arm. Seldom found outside of collections.

626 Double-barrel Revolver, cal. .36 Eighteen shots, pin-fire. Made in Birmingham, Eng.

627 Kerr's Navy Revolver, cal. .36 Five shots. Percussion; paper cartridge. Kerr's patent. Made in London, Eng. Was carried in the Civil War by Silas Y. Courtney, Confederate Army.

Note.—With Colt's Army "44," Kerr's revolver was the principal pistol used by the Confederate Army in the Civil War.

628 French Army Revolver, cal. .44 Percussion. Six shots; paper cartridge. Hammerless. Marked, "DEVISME, PARIS." Used in Confederate Army during Civil War.

629 French Hammerless Pistol, cal. .58 Metallic cartridge; operated with a lever on top, which opens the breech for the cartridge at the same time it cocks it, and is ready for use when lever is closed. Hammer inside. Marks on the barrel, "CBRE DEGRE." Marked on the lever, "PISTOLET, ROBERT BREVETE."

630 Revolver, cal. .42 Six shots. From the battle-field of Petersburg, Va., June, 1864.

631 Deville Revolver, cal. .38 Six shots, metallic cartridge. Automatic; bar on the top of barrel to slide the cylinder forward to load. Marked, "L. DEVILLE."

632 "Volcanic" Repeating Magazine Pistol, cal. .32 H. Smith & D. B. Wesson's patent, No. 10,535, Feb. 14th, 1854. Marked, "VOLCANIC REPEATING ARMS CO., NEW HAVEN, CONN."

633 "Volcanic" Repeating Magazine Pistol, cal. .32 H. Smith & D. B. Wesson's patent, No. 10,535, Feb. 14th, 1854. Marked, "SMITH & WESSON'S ARMS CO., NORWICH, CONN."

Note.—Smith & Wesson sold this patent to the Volcanic Arms Co.

634 "Volcanic" Repeating Magazine Pistol, cal. .38 Large size. H. Smith & D. B. Wesson's patent, No. 10,535, Feb. 14th, 1854. Brass frame and mounted. Marked, "VOLCANIC REPEATING ARMS CO., NEW HAVEN, CONN."

635 "Percival" Magazine Pistol, cal. .32 Invented by Orville Percival, Moodus, Conn., about 1840. Patented by Percival and Smith, patent No. 7496, July 9th, 1850. Marked, "H. SMITH, NORWICH, CONN., 1850." This arm has two chambers, which are suspended vertically from the barrel when the arm is not being loaded; in that case the two chambers are made to turn through a half circle, and the powder, fulminate, and ball dropped into its place from the magazine; the revolution backwards left the barrel loaded for action. Forty 32-caliber balls could be inserted in the chamber at once. The powder necessary for the same number of charges was received in the adjoining chamber, which also contained the tube for the fulminate. The latter was in the form of pellets, and dropped from the chamber into the receptacle designed for the purpose.

636 Belgian Repeating, Four-shot, Automatic Pistol, cal. .38 Percussion. Hammer inside; four chambers in breech-block, which slides up and down in center of case; it raises up when cocking

it from one chamber to another; is operated with a trigger. Name on it, "H. COLLEYE;" on the breech-block the Belgian proof-mark (E/LC). From Montreal, Canada.

637 Sliding Magazine Pistol, cal. .36 Ten shots, metallic cartridge, pin-fire. P. Lancaster's patent, No. 14,667, April 15, 1856.

638 U. S. Army Signal Pistol, cal. .72 Percussion. Brass. Barrel 1¾ inches long. Marked, U. S. Army Signal Pistol, A. J. M., 1862.

639 Flint-lock Tinder-box. Used in "ye olden times" to obtain fire; a necessity before the invention of the match. A particularly old and rare specimen.

640 Antique Flint-lock Powder Tester; also known as "Epronvette." When fired, the force of the powder exploded turns an indexed wheel, which is held by a spring at the muzzle.

641 Revolving Pistol, cal. .31 Percussion. Three shots.

642 "Lower" Revolver, cal. .38 Six shots, metallic cartridge. Marked, "J. P. LOWER." From Charleston, S. C.

643 "Pettengill" Hammerless Revolver, cal. .44 Double action, six shots. Stamped on the frame, "PETTENGILL'S PATENT, 1856." "RAYMOND & ROBITAILLE." E. S. Pettengill's patent, No. 15,388, July 22d, 1856. From the battle-field of Gettysburg, Pa., July 1st-4th, 1863.

Note.—Dec. 26th, 1861, the United States government contracted with ROGERS, SPENCER & CO., OF WILLOW VALE, ONEIDA COUNTY, NEW YORK, for 5000 "Pettengill" Revolvers. Owing to the delicate mechanism, they proved unserviceable.

644 Alsop's Navy Revolver, cal. .31 Six shots, paper cartridge. C. R. Alsop's patents, No. 29,213, July 17, 1860, and 29,538, Aug. 7th, 1860; No. 32,333, May 14, 1861, and No. 33,770, Nov. 26, 1861. Marked, "C. R. ALSOP, MIDDLETOWN, CONN." Civil War relic.

645 English Army Revolver, cal. .44 Paper cartridge, percussion. J. W. Laird's patent, London, Eng. Civil War relic.

646 English Army Revolver, cal. .44 Six shots, percussion, paper cartridge. Used in the Confederate Army during Civil War.

647 Navy Revolver, cal. .36 Percussion, six shots, paper cartridge. From the battle-field of Antietam, Md., Sept. 17th, 1862.

648 Wesson & Leavitt's Navy Revolver, cal. .36 Percussion, paper cartridge. "Maynard's" primer-lock patent, 1845. Marked, "MASSACHUSETTS ARMS CO., CHICOPEE FALLS, MASS." Relic of the Civil War.

649 Sharp's Breech-loading Pistol, cal. .38 C. Sharp's patent, No. 5763, Sept. 12th, 1848. Percussion, paper cartridge. Marked, "SHARP'S PATENT ARMS MANUFACTURING CO., FAIRMOUNT, PHILADELPHIA, PA." Used in the Civil War.

650 Sharp's Breech-loading Pistol, cal. .38 C. Sharp's patent, No. 5763, Sept. 12th, 1848. Percussion, paper cartridge. Marked, "SHARP'S PATENT ARMS MANUFACTURING CO., FAIRMOUNT, PHILADELPHIA, PA." Civil War relic.

651 "Slocum" Revolver, cal. .32 Five shots, rim fire; metallic cartridge. Has sliding shells on the cylinder, which open to admit cartridge. F. P. Slocum's patent, "No. 38,204, April 14th, 1863 (reissued twice). Marked, "BROOKLYN ARMS CO., BROOKLYN, N. Y."

652 Manhattan Revolver, cal. .32 Six shots, metallic cartridge. Marked, "MANHATTAN ARMS MFG. CO., NEW YORK."

653 "Stevens" Revolver (frequently called Maynard's Tape-lock Revolver), cal. .31 Six shots, percussion, paper cartridge. J. Stevens' patent, No. 12,189, Jan. 2d, 1855; with Dr. Edward Maynard's Primer-lock, patented Sept. 22d, 1845. Marked, "MASSACHUSETTS ARMS CO., CHICOPEE FALLS, MASS." From the Gettysburg battle-field, July, 1863.

654 Newbury Revolver, cal. .31 Six shots. Percussion. F. Newbury's patent, No. 12,555, March 20th, 1855. Marked, "NEWBURY ARMS CO., ALBANY, N. Y."

655 Wood's Revolver, cal. .32 Six shots. Metallic cartridge, pin-fire; has extracting lever. S. W. Wood's patent, No. 41,803, March 1st, 1864. Marked, "CONNECTICUT ARMS CO., NORFOLK, CONN."

656 Wood's Revolver, cal. .31 Six shots. Percussion, paper cartridge. S. W. Wood's patent, No. 41,803, March 1st, 1864. Marked, "CONNECTICUT ARMS CO., NORFOLK, CONN."

657 "Alsop" Revolver, cal. .31 Percussion, six shots, paper cartridge. C. H. Alsop's patents, No. 29,213, July 17th, 1860; No. 29,538, August 7th, 1860; No. 32,333, May 14th, 1861, and No. 33,770, November 26th, 1861. Marked, "C. H. ALSOP, MIDDLETOWN, CONN." Civil War relic.

658 Porter Revolver, cal. .35 Percussion. Eight shots. "Tape-lock." Marked, "P. W. PORTER, NEW YORK, 1845." A rare piece.

659 "Adams" Army Revolver, cal. .44 Six shots, percussion; double action; paper cartridge. J. Adams' patent, 1856. Marked, "J. ADAMS, LONDON, ENG." The Federal and Confederate governments both purchased this arm during Civil War.

Note.—There were three sizes of these revolvers made.

660 Adams Revolver, cal. .44 Percussion, five shots, paper cartridge. Made for ADAMS REVOLVING ARMS CO., NEW YORK, by MASSACHUSETTS ARMS CO., CHICOPEE FALLS, MASS. From battle-field of Baton Rouge, La., Aug. 5, 1862.

661 Revolver, cal. .22 Six shots; metallic cartridge.

662 Beals Revolver, cal. .31 Five shots, percussion, paper cartridge. F. Beals' patent, No. 15,167, June 24th, 1856. Marked, "E. REMINGTON & SON, ILION, NEW YORK."

663 Walch Revolver, cal. .36 Ten shots, percussion, paper cartridge. Has two hammers and ten cones, or nipples; five chambers in cylinder, two cartridges in each. J. Walch's patent, No. 22,905, Feb. 8th, 1859. Marked, "WALCH FIRE-ARMS CO., PARK ROW, NEW YORK."

664 Walch Revolver, cal. .34 Percussion, large size, twelve shots; two charges in each chamber, one charge above the other; has twelve cones and two hammers. J. Walch's patent, No. 22,905, Feb. 8th, 1859. Marked, "WALCH FIRE-ARMS CO., PARK ROW, NEW YORK."

665 Pistol, cal. .38 Percussion. Large cylinder. Marked, "NORWICH FALLS, CONN."

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Case No. 44.

AMERICAN ARMY AND NAVY REVOLVERS AND PISTOLS FROM 1813 TO 1865.

666 Model of 1855, U. S. Rifled Percussion Pistol, cal. .58 Maynard's Primer-lock; detachable stock; swivel ramrod; brass-mounted. Made at Springfield Armory, 1856.

Note.—This pistol was adopted in 1855, when the caliber of all small arms was changed from .69 to .58 The Musketoon, described elsewhere, was ordered discontinued, and this pistol, to which was attached a stock allowing it to be fired from the shoulder, was authorized for cavalry.—Jefferson Davis, Secretary of War. 1855 was also the year the Maynard Primer was adopted.

667 Colt's New Model Army Revolver, cal. .44 Six shots, percussion, paper cartridge. S. Colt's patent; detachable stock.

668 Colt's Old Model Army Revolver, cal. .44 Six shots, percussion, paper cartridge. S. Colt's patent; detachable stock.

669 Colt's New Model Army Revolver, cal. .44 Six shots, percussion, paper cartridge; with detachable extension stock, formed like the butt of a rifled musket, allowing the revolver to be fired from the shoulder. This specimen has a canteen in the stock, with an opening at the comb of the stock. Marked, "COLT'S PATENT FIRE-ARMS MFG. CO., HARTFORD, CONN."

670 Colt's New Model Navy Revolver, cal. .36 Six shots, paper cartridge, with detachable stock. Marked, "COLT'S PATENT FIRE-ARMS MFG. CO., HARTFORD, CONN."

671 Colt's New Model Navy Revolver, cal. .36 Six shots, percussion, paper cartridge; with detachable extension stock. Colt's patent. Marked, "COLT'S PATENT FIRE-ARMS MFG. CO., HARTFORD, CONN."

672 Remington Navy Revolver, cal. .36 Percussion, five shots, paper cartridge. F. Beals' patent, No. 21,478, Sept. 14th, 1858. Marked, "REMINGTON & SON, ILION, N. Y." Civil War relic.

673 Remington Breech-loading Pistol, cal. .22 Metallic cartridge. Joseph Rider's patents, Oct. 1st, 1861; No. 40,887, Dec. 8, 1863; reissued May 3, 1864. Marked, "THE REMINGTON ARMS CO., ILION, N. Y."

Note.—This little pistol was commonly known as Remington's Vest Pocket Pistol, and carried by officers. It was a dangerous weapon for the owner, owing to the difficulty in cocking it.

674 Remington Navy Revolver, cal. .36 Percussion, six shots, paper cartridge. F. Beals' patent, No. 21,478, Sept. 14th, 1858. Marked, "E. REMINGTON & SON, ILION, N. Y." Used in the Civil War.

675 Remington Navy Pistol, cal. .50 Metallic cartridge, rim fire. Joseph Rider's patents, No. 40,887, Dec. 8th, 1863 (reissued May 3d, 1864), and No. 45,123, Nov. 15th, 1864. Marked, "REMINGTON ARMS CO., ILION, N. Y."

676 Remington Army Revolver, cal. .44 Percussion, six shots, paper cartridge. F. Beals' patent, No. 21,478, Sept. 14th, 1858. Marked, "E. REMINGTON & SON, ILION, N. Y." Largely used in the War of the Rebellion.

677 Whitney Army Revolver, cal. .44 Six shots, percussion, paper cartridge. Has an extra trigger revolving the cylinder. E. Whitney's patent. Marked, "E. WHITNEY, NEW HAVEN, CONN."

678 Beals' Revolver, cal. .31 Seven shots, paper cartridge. F. Beals' patent, No. 15,167, June 24, 1856. Marked, "E. WHITNEY, WHITNEYVILLE, CONN." Civil War relic.

679 Whitney's Colt Pattern Navy Revolver, cal. .36 Percussion, six shots, paper cartridge. E. Whitney's patent, No. 11,447, Aug. 1st, 1854. Marked, "E. WHITNEY, NEW HAVEN, CONN."

Note.—Connecticut owned and condemned some 75 of these in June, 1887.

680 Whitney's Colt Pattern Navy Revolver, cal. .36 Six shots, percussion, paper cartridge; 7½-inch barrel; weight, 2½ pounds; pattern similar to Colt's. E. Whitney's patent, No. 11,447, Aug. 1st, 1854. Marked, "E. WHITNEY (WHITNEYVILLE), NEW HAVEN, CONN." Condemned by State of Connecticut, 1887.

681 Whitney Revolver, cal. .31 Five shots, paper cartridge, "Patent Applied For." Marked, "E. WHITNEY (WHITNEYVILLE), NEW HAVEN, CONN." Fought with in Civil War by H. E. Smith, Brooklyn, N. Y.

682 } 683 } Pair, Model of 1842, U. S. Army Pistols, cal. .56 Percussion; brass mounted; swivel ramrods. Marked, "H. ASHTON & CO., MIDDLETOWN, CONN.," one in 1851, the other in 1852. Carried by the Governor's Horse Guard of Hartford, Conn., until condemned in 1885.

684 "Allen" Army Revolver, cal. .44 Percussion, six shots, paper cartridge. E. Allen's patent, No. 16,367, Jan. 13, 1857, and No.

18,836, Dec. 15th, 1857. Marked, "ALLEN & WHEELOCK, WORCESTER, MASS." Civil War relic.

685 "Starr" Navy Revolver, cal. .36 Percussion, five shots, paper cartridge. The trigger is double. By continuing to pull on the forward trigger, which raises the hammer and revolves the cylinder, the back of the trigger hits the front of a rear trigger, causing the hammer to fall. E. T. Starr's patent, No. 14,118, Jan. 15th, 1856. Marked, "STARR ARMS CO., NEW YORK." Civil War relic.

686 "Starr" Army Revolver, cal. .44 Percussion, six shots, paper cartridge (see description of No. 685). E. T. Starr's patent, No. 14,118, Jan. 15th, 1856. Marked, "STARR ARMS CO., NEW YORK." Relic of the Civil War.

687 "Starr" Army Revolver, cal. .44 Percussion; six shots; paper cartridge; single action. Marked, "STARR ARMS CO., NEW YORK."

688 "U. S." Flint-lock Pistol, cal. .70 Made for the U. S. government by Simeon North, Berlin, Conn., 1813.

Note.—No pistol made for the U. S. government is so rare, valuable, and sought for as is this so-called "North's Berlin." Simeon North was given the first government contract for pistols in 1813, and furnished 500. On the lock-plate, in rear of the cock (which is of the variety known among collectors as "flat"), across the end is stamped in three lines "S. NORTH," "BERLIN, CONN." Between the cock and the pan, under an eagle looking toward the muzzle with half-raised wings, is stamped "U. STATES."

689 "U. S." Flint-lock Horse Pistol, cal. .56 Large, heavy pistol; heavy iron band; iron-mounted. Made for the United States government by Simeon North, Middletown, Conn. Stamped on the lock, "S. NORTH," in a curve over, and "MIDDLETON" in a curve under, the letters "U. S.," separated by an eagle.

Note.—Not one of the 500 first made.

690 Model of 1819 U. S. Army Pistol. Flint-lock altered to percussion; swivel ramrod; iron-mounted. Made for the U. S. government by and marked, "S. NORTH, MIDDLETOWN, CONN."

691 } Pair, U. S. Model of 1836, Flint-lock Army Pistols, cal. .547 Swivel
692 } ramrods; iron-mounted. Length, 10 2-5 inches; weight, 2 pounds, 9½ ounces. Made for the United States government by and marked, "R. JOHNSON, MIDDLETOWN, CONN., 1841."

Note.—This model differs from the Model of 1819 in that the pan has a "fence;" no "cock bolt;" holds the lock half-cocked. The band has a branch and no band spring.

693 Model of 1836 U. S. Flint-lock Pistol (altered to Percussion), cal. .547 Iron-mounted; swivel ramrod. Made for the U. S. government by and marked, "R. JOHNSON, MIDDLETOWN, CONN., 1843."

694 Adams' Navy Revolver, cal. .36 Percussion. Five shots, paper cartridge. R. Adams' patent, No. 9694, May 3d, 1853. Marked, "AMES ARMS CO., CHICOPEE FALLS, MASS." Used in Civil War.

695 "U. S." Navy Pistol, cal. .56 Percussion. Hammer inside of lock-plate. Brass-mounted; swivel ramrod. Marked, "N. P. AMES, SPRINGFIELD, MASS., 1845."

696 Wesson & Leavitt's Navy Revolver, cal. .36 Six shots, percussion, paper cartridge. Cylinder revolves to the left. Wesson & Leavitt's patent. Marked, "MASSACHUSETTS ARMS CO., CHICOPEE FALLS, MASS."

Note.—D. Leavitt's patent, No. 182, April 29th, 1837, was the third issued for revolvers, and the first to be numbered.

697 Colt's Revolver, cal. .31 Percussion, five shots, paper cartridge. "ADDRESS COL. COLT, NEW YORK," stamped on top of barrel. From Port Hudson, La., July, 1863.

698 Colt's Revolver, cal. .31 Percussion, paper cartridge; octagon Damascus barrel. Trigger falls forward when not in use. Cylinder loads from the front, as did all fired by a percussion cap. No ramrod attached to the arm. Samuel Colt's first patent (no number), Feb. 26, 1836. On top of the barrel reading toward the handle is engraved, *"Patent Arms Mfg. Co., Paterson, N. J., Colt's Pat."*

Note.—This is known as the "Paterson;" is the rarest type of Colt's Revolver and highly prized by collectors. Found in very few collections.

699 Colt's Patent "House Pistol." A four-shot, breech-loading revolver, cal. .41 Using a rim-fire metallic cartridge, known as the "Derringer" cartridge. Weight, 14½ ounces; length, 6 inches. Cylinder known as the "Clover Leaf," from its shape; brass frame. A powerful weapon. Stamped on top of barrel, "COLT'S PATENT HOUSE PISTOL." "COLT'S FIRE-ARMS MFG. CO., HARTFORD, CONN."

Note.—The type of pistol used in the Stokes-Fisk affair.

700 Colt's "New Model" Revolver, cal. .31 Five shots, percussion, paper cartridge. Colt's patent. Marked, "COLT'S PATENT FIRE-ARMS MFG. CO., HARTFORD, CONN." From battle-field of Gettysburg.

701 Colt's "New Model" Revolver, cal. .36 Six shots, percussion, paper cartridge. S. Colt's patent. Marked, "COLT'S FIRE-ARMS MFG. CO., HARTFORD, CONN."

702 Colt's Revolver, cal. .31 Five shots, percussion, paper cartridge. Unfinished, showing process of manufacture. From Colt's Armory.

703 Colt's Army Revolver, cal. .44 Six shots, percussion, paper cartridge. Samuel Colt's patent. Marked, "COLT'S FIRE-ARMS MFG. CO., HARTFORD, CONN."

Note.—This revolver was used more than all others by Federal troops, and by many Confederates in the Civil War.

704 Colt's Revolver, cal. .31 Six shots, percussion, paper cartridge. Colt's patent. Stamped on top of the barrel, "ADDRESS COL. SAMUEL COLT, NEW YORK, U. S. AMERICA." From the battle-field of Newburn, N. C.

705 "Savage" Army Revolver, cal. .3625 Six shots, percussion, paper cartridge; double action; ring trigger. H. S. North's patent, No. 15,144, June 17, 1856; North & Savage, No. 22,666, Jan. 18th, 1859, and Savage & North, No. 28,331, May 15th, 1860. Marked, "SAVAGE R. F. A. CO., MIDDLETOWN, CONN."

Note.—Contracts for 5500 of these were issued by the government in 1861, costing $20 each.

706 Wesson & Leavitt's Revolver, cal. .31 Six shots, percussion, paper cartridge; small size; cylinder revolves to the left. Patented by Wesson & Leavitt. Marked, "MASSACHUSETTS ARMS CO., CHICOPEE FALLS, MASS." Civil War relic from Gettysburg.

707 Joslyn Army Revolver, cal. .44 Five shots, percussion, paper cartridge. B. F. Joslyn's patent, No. 20,160, May 4th, 1858. Marked, "JOSLYN ARMS CO., STONINGTON, CONN." Saw service in War of Rebellion, in Federal Army.

708 Warner Revolver, cal. .36 Six shots, percussion, paper cartridge. J. Warner's patent, No. 15,202, June 24th, 1856 (reissued, No. 2223, April 10th, 1866). Marked, "SPRINGFIELD ARMS CO., SPRINGFIELD, MASS." Civil War relic. Engraved, "CAPT. P. FRANZ. COMPANY F. 13TH REG'T."

709 "Colt's New Model" Revolver, cal. .31 Percussion, five shots, paper cartridge. Finely engraved. Marked, "COLT'S FIRE-ARMS MFG. CO., HARTFORD, CONN." Civil War relic.

710 Colt's Navy Revolver, cal. .36 Percussion, six shots, paper cartridge. Samuel Colt's patent. Marked, "COLT'S FIRE-ARMS MFG. CO., HARTFORD, CONN." Civil War relic.

711 Colt's Old Model Army Revolver, cal. .44 Six shots, percussion, paper cartridge. S. Colt's patent. Marked, "COLT'S FIRE-ARMS MFG. CO., HARTFORD, CONN." Used in the Mexican War.

712 Colt's Old Model Army Revolver, cal. .44 Six shots, percussion, paper cartridge. S. Colt's patent. Marked, "COLT'S FIRE-ARMS MFG. CO., HARTFORD, CONN." From battle-field of Hatcher's Run, Va., Feb. 6th, 1865.

713 Colt's Army Revolver, cal. .44 Six shots. Altered from paper to metallic cartridge. Marked, "COLT'S PATENT FIRE-ARMS MFG. CO., HARTFORD, CONN."

EXHIBIT O. COEHORN MORTAR.

Bore, 5¾ inches; named after its inventor, Baron Coehorn. It has two handles, and may be carried by two men for short distances. Used for throwing bombs, shells, etc. It was in the service at Yorktown, Va., April 30 to May 4, 1864, and in many other battles during the Civil War.

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